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MAIN COLLEGE BUILDING.

THE CLEMSON

Agricultural and Mechanical College

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SOUTH CAROLINA.

ANNUAL CATALOGUE,

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June 8, End of Session, 1897–8.
Sept. 14, Beginning of Session, 1898–9.
1899.
Jan. 28, End of First Term, 1898–9.
June 14, End of Session, 1898–9; Third Annual Commencement.

OFFICIAL TITLE.

The official title of the Institution is THE CLEMSON AGRICULTURAL COLLEGE OF SOUTH CAROLINA.

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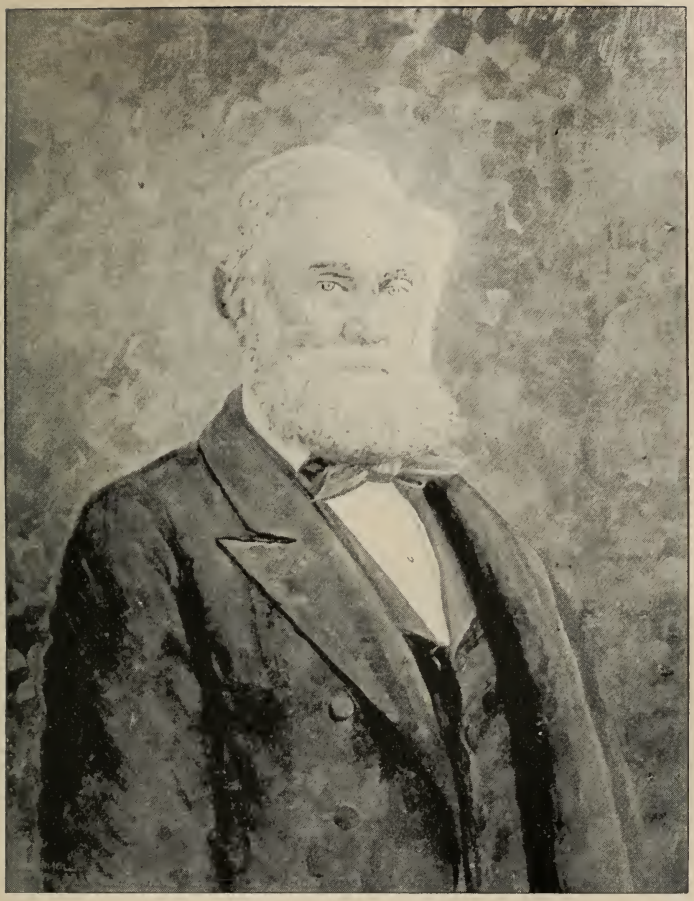


THOMAS G. CLEMSON.

BIOGRAPHICAL SKETCH OF THOMAS G. CLEMSON.

BY HON. R. W. SIMPSON.

Thomas G. Clemson was born in the City of Philadelphia, July 1807, died at Fort Hill, April 6th, 1888, and was buried in the Episcopal churchyard at Pendleton, S. C.

Mr. Clemson was six feet six inches tall, his features were handsome, and his appearance commanding; his deportment and manners were dignified and polished. His intellect was of a high order, and he was gifted with fine conversational powers. His views and opinions were broad and liberal, and there was nothing narrow or contracted about him; withal he was firm and tenacious in adhering to his conclusions. He was remarkably quick to discover and comprehend the character of his associates, and in forming his opinions of them he was almost always correct.

Mr. Clemson no doubt may have had his faults, and in some things he was peculiar, but during the long time the writer was intimately associated with him, he was never known to do a mean thing or heard to backbite or speak disrespectfully of any one. While possessed of ample means, he had no disposition to spend more money upon himself than was actually necessary. His greatest desire was to take care of his property and increase it that he might the better carry out his promise to his wife, which was to found an agricultural college upon Fort Hill, upon the very spot she herself had selected for the location of the main college building. How faithfully he redeemed his promise to his dear wife, let Clemson College as it stands to-day in all its magnificence speak. Mr. Clemson well knew that the property donated for the purpose would not be sufficient to build and maintain such a college as he conceived of; but having a firm reliance upon the liberality of the State of South Carolina, he felt assured that when the necessities of the people, growing out of their changed conditions resulting from the effects of the war, were properly understood and appreciated, his efforts to benefit the farmers would be recognized; and that the State would supplement his donation by whatever amount might be necessary to establish the dream of his life. He reasoned wisely and correctly.

Very early in life Mr. Clemson developed a great taste for the study of the sciences, especially chemistry, mineralogy and geology. In 1823, when hardly sixteen years old, he ran off from his home, not on account of any disagreement with his parents, but simply for adventure and to see the world. At that time he, though so young, was six feet tall and exceedingly handsome, both in form and features. He first went to England, but remained there only a short time and then visited Paris. At this time France was particularly friendly towards the United States and this handsome young American very soon attracted the attention of the young nobility of that great city. Through these young men he also became acquainted with some of the leading officials of the city. During his stay in Paris he shouldered a musket and joined his young friends in several of the revolutions or outbreaks for which that city has been famous. His gallantry displayed on these occasions earned for him the respect and esteem of the officials, who rewarded him with a position in the celebrated School of Mines. He remained at the school for four years and graduated with high honors. During his stay in Paris he also found time to indulge his taste for painting, and had as his teachers some of the celebrated artists of that time. By these means he became acquainted with many painters both in France and Germany, which enabled him in after years to collect the many rare and beautiful paintings which now adorn the walls of John C. Calhoun's old homestead at Fort Hill.

During his stay in Europe his father died and the large estate was divided in such way as to leave him no part of it, and just at the age of manhood he found himself penniless; but he cheerfully set to work in the practice of his profession and very soon earned an enviable reputation. His services as a mine expert were particularly valuable, and though established at Washington, his labors were not confined to this country alone, but extended to Cuba and South America also. His fees were large and he very soon amassed a comfortable fortune. At Washington he was a conspicuous and prominent person, and he had the entry into the most exclusive families. Miss Floride, the eldest daughter of John C. Calhoun, was in Washington on a visit to her father, and there Mr. Clemson met her, and subsequently they were married at Fort Hill. Mrs. Clemson was among women what her distinguished father was

among men. Her love for her home and country was superb, and to this noble, generous and yet gentle woman, South Carolina is as much indebted for Clemson College as to the distinguished husband, Thos. G. Clemson. Mr. Clemson was a great admirer of John C Calhoun, and earnestly supported his political views and opinions. During the administration of President Jackson he was appointed Minister to Belgium, but having very little taste for politics, at the expiration of his term he returned to his home in Washington, and resumed the work of his profession.

At the beginning of the war Mr. Clemson was residing at his home in Washington city with his family, which consisted of his wife, his son John C. Clemson, and daughter Floride Clemson—the son and daughter about grown.

It was well known to the authorities that the sympathies of Mr. Clemson were with the South and for this reason his movements were closely watched, and some time in 1862 his arrest was ordered; but being warned by a friend that he would be arrested the next day, he and his son escaped during the night and crossed the Potomac in a row boat. Landed on Virginia soil, they did not stop until they reached Richmond, having walked the entire distance. Upon arriving in Richmond they both tendered their services to President Davis. John C. was at once appointed a Lieutenant in the army and assigned to duty. Mr. Clemson was assigned to the mining department of the trans-Mississippi. Here he remained in the service until the close of the war.

At this time Mrs. John C. Calhoun resided at Pendleton; and here Mr. Clemson was reunited with his family, and here they resided until the death of Mrs. Calhoun in the latter part of 1866.

Previous to the war Mrs. Calhoun had sold their old home, Fort Hill, and all her property thereon to her son Col. Andrew P. Calhoun, taking his bond and mortgage for the purchase money. Of this bond and mortgage Mrs. Calhoun willed three-fourths to her daughter Mrs. Thos. G. Clemson, and one-fourth to Mrs. Clemson's daughter Miss Floride, who subsequently married Mr. Gideon Lee, of New York. The mortgage of Col. A. P. Calhoun was foreclosed and Mrs. Clemson bought in Fort Hill, and divided it with her daughter Mrs. Lee in proportion to the interest of each under Mrs. Calhoun's will. In 1871 Mrs. Floride Lee died, leaving one child, a daughter. Only seventeen days after Mrs. Lee's death John C. Clemson was killed near Seneca by a collision of two trains on the Blue Ridge Railroad. The loss of their only two children was a terrible shock to Mr. and Mrs. Clemson. Desolate, they mourned the loss of all the brightness out of their lives; but unsearchable are the providences of God, for it was then that these two stricken, sorrowing parents determined to unite in so disposing of all they had left of their property as to bring to their fellow men as much happiness and prosperity as they could have wished for themselves. They agreed to make wills to each other, and promised that the survivor would make a will donating all of their joint property to erect an Agricultural College at Fort Hill.

In 1875 Mrs. Clemson died suddenly of heart disease while Mr. Clemson was absent from home. Many persons in Pendleton remember the grief of this old and now desolate man at the grave when the remains of the devoted partner of his life were being laid to rest.

The remaining years of his life Mr. Clemson spent, desolate and alone, at Fort Hill. After awhile he began to take more interest in affairs. He was fond of reading, and kept around him the leading newspapers and standard magazines, by which he was enabled to keep in touch with his fellow men; otherwise he lived the life of a hermit, at least for several years after the death of Mrs. Clemson.

Eventually, however, his mind became fixed upon the one purpose of fulfilling the promise to his wife and erecting the College they had planned. Then he began again to visit his friends, and many were the efforts he and his friends made to interest others in this great work.

During this time he looked carefully after his finances, and tried to save all he could for the College. But still he provided generously for the faithful helps who remained with him, and wished very much to help other poor friends in distress, and did so.

It was the privilege of the writer to visit him frequently during the last two years of his life, and during this time he talked freely of his life and experiences. He portrayed in a manner never to be forgotten, the condition the South was sure to be plunged into, if something was not done to arrest the destructive tendencies of the times. Education such as we had before our conditions were changed by the war, was all right, but not enough. To become successful the Southern people had to become practical, and a practical education was necessary to meet the people's necessities.

During the latter part of his life he talked a great deal about religious matters and became very much concerned about the salvation of his soul. He requested the ministers to visit him. One good man who was with him to the last, said that beyond a doubt, he had made his peace with his God, and his last words were in behalf of the poor and suffering. Can the people of South Carolina ever forget Thos. G. Clemson, and the great work he helped to accomplish for them? If this is possible, visit Fort Hill and look around you.

GENERAL INFORMATION.

Origin and Objects.

In 1886 a convention of the farmers of South Carolina passed a resolution advocating the establishment of an Agricultural College. The matter was given definite form by the action of the Hon. Thomas G. Clemson, son-in-law of John C. Calhoun, who died in 1888, leaving as a bequest to the State the old Calhoun homestead, Fort Hill, consisting of about 800 acres of land, and about $80,000 in other securities, for the purpose of establishing an Agricultural College.

The Legislature passed an act which became a law in November, 1889, accepting the bequest. The College opened July 6, 1893, with an enrollment during its first session of 446 students.

The object of the College, in conformity with the Acts of Congress and of the State Legislature, is to give practical instruction in agriculture and in the mechanic arts. To accomplish this object in its highest sense, careful instruction is given in the principles and applications of the sciences bearing upon agriculture and mechanics; and to give the breadth and culture necessary for a rounded education, liberal courses are provided in history, economics and English.

It is considered of the utmost importance that students be taught, not only theoretical methods, but practical work in these methods. To this end, as much time is devoted to laboratory and shop work, field instruction, and other practical exercises, as to lectures and recitations.

Location.

The College is located on the dividing line between Oconee and Pickens counties, in the picturesque foot hills of the Blue Ridge mountains. It has an elevation of about 900 feet above sea level, and commands an excellent view of the mountains to the north and west, some of which attain an altitude of nearly 5,000 feet. The climate is invigorating and healthful and the surroundings are in every way favorable to the highest physical and mental development. The buildings are located on the old Fort Hill homestead of John C. Calhoun.

The College is one mile from Calhoun, a station on the main line of the Southern Railway, and two miles from Cherrys, on the Blue Ridge Railroad. By means of these roads and their connections, the College is easily accessible from all parts of the State, as shown by the accompanying railroad map. It is also connected by tele-

phone with Calhoun and Pendleton, and thence by telegraph with all parts of the country. The postoffice is conveniently situated on the campus, and receives five daily mails.

College Grounds and Buildings.

GROUNDS.—The College grounds occupy about two hundred acres of land, including the campus, sites of buildings and residences, and grounds for military drill and outdoor athletics. The campus is laid out in walks, drives and lawns, and is shaded by a beautiful grove of native forest trees.

THE MAIN COLLEGE BUILDING is a three-story brick structure, 130 by 140 feet, trimmed with gray sandstone. It contains twenty-two rooms, including recitation rooms, library and reading room, literary society halls, laboratories for botany, bacteriology, physics, and mineralogy, besides the offices of the President, the Commandant and the Secretary and Treasurer. Adjoining this building is Memorial Hall, the College chapel, which has a seating capacity of 1,000, and is used for religious services and as an assembly room.

The CHEMICAL BUILDING is of brick, two stories high, 50 by 80 feet, roofed with slate and finished inside with southern pine.

THE MECHANICAL BUILDING, which is devoted to work in engineering and mechanic arts, is a substantial brick structure of liberal dimensions, containing about 30,000 square feet of floor space.

THE ELECTRICAL INSTRUMENT LABORATORY is a single story brick building, constructed of non-magnetic materials and designed especially for delicate electrical instruments.

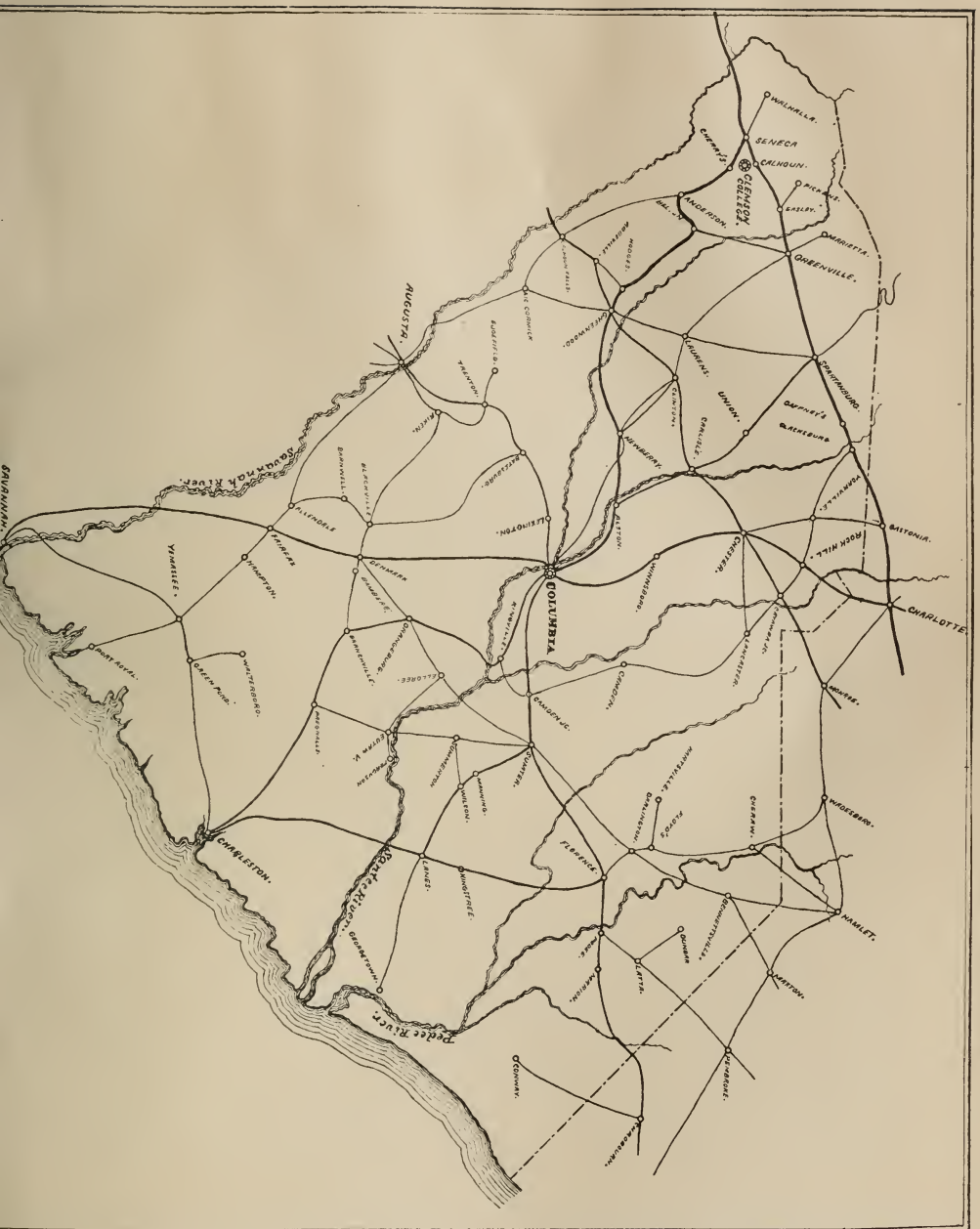
TEXTILE BUILDING.—A two-story brick building, illustrated on another page, is in course of erection, to be occupied by the Textile department.

THE HORTICULTURAL BUILDINGS consist of a spacious and well-equipped green house, a canning house, and a packing house with brick basement. A building is in course of erection to contain class rooms and laboratories for instruction in horticulture and entomology.

THE DAIRY BUILDING is a wooden structure of modern design, constructed especially to illustrate the most approved methods of dairy practice.

EXPERIMENT STATION OFFICES.—A wooden building containing offices, a library, and storage and seed rooms is provided for the use of the officers of the Experiment Station.

FARM BUILDINGS.—The College is provided with commodious barns and other farm buildings of modern design, which are described more fully in connection with the equipment for instruction in agriculture.



RAILROAD MAP OF SOUTH CAROLINA.

THE VETERINARY OPERATING HOUSE is a commodious frame building, containing stalls for animals under treatment, a pharmacy, a dissecting room, and a blacksmith shop.

THE CADET BARRACKS is a three-story brick building containing 148 rooms for students; and in addition to these rooms, it has a dining hall 134 by 44 feet, and a kitchen 50 by 37 feet. The building is heated by steam and lighted by electricity, and has an abundant supply of pure spring water.

The rooms in barracks are furnished with single width iron cots, mattresses, tables, chairs, wardrobes, buckets, pans, cups and mirrors. The dining hall is well supplied with table linen, silverware and china. The kitchen is equipped with all the modern appliances for culinary purposes.

The bath rooms and closets are located in brick buildings apart from the barracks, but connected with it by covered gangways.

THE HOSPITAL, located more than a quarter of a mile from the barracks, is a wooden building especially designed for the purpose. It is lighted by electricity and has a thorough sewerage system. The hospital is in the immediate charge of the College Surgeon, who is assisted by an experienced matron and a nurse, thus insuring the best personal attention to each patient.

THE CALHOUN MANSION, the former residence of John C. Calhoun, is kept in honor of his memory, in accordance with the provisions of Mr. Clemson's will.

RESIDENCES.—Nine two-story brick buildings, nine six-room cottages, and sixteen smaller houses furnish residences for professors and other employees.

Those members of the faculty who do not occupy residences are furnished lodgings at the College Hotel, a beautifully located building overlooking the campus.

THE LAUNDRY is a brick building specially constructed and fitted with the improved machinery of a modern steam laundry. It is operated exclusively for students.

Water Supply.

There are two sources from which water is obtained. The general supply is collected through iron pipes into a reservoir, from which it is pumped into a stand-pipe eighty feet high, whence it is distributed.

Drinking water is pumped from a bold spring, in a continuous stream, directly into the barracks. It is by this means furnished fresh, pure, and cold.

The waste water is used for flushing the sewer-pipes, which empty into the Seneca river, a half-mile away.

Tuition.

Free tuition will be given to the residents of South Carolina when the following certificate is properly signed and filed:

CERTIFICATE OF INABILITY TO PAY TUITION.

This is to Certify, *That I am unable to pay tuition for my* _____ *in the Clemson Agricultural College for the session of 1898-99.*

_____

Father or Guardian.

I hereby certify that, to the best of my knowledge and belief, the above statement is true.

_____

County Auditor.

All other students pay a tuition fee of $40.00 per session.

Blank certificates will be furnished upon application to the President.

Expenses.

The next session of the College will begin September 14th, 1898, and close June 14th, 1899. Expenses for this session of nine months will be as follows:

Matriculation Fee,	$ 5 00
Medical Fee,	5 00
Uniform,	22 30
Board and Washing	67 50
Total for Free-tuition Students,	$99 80
Tuition,	40 00
Total for Tuition-paying Students,	$139 80

The session is divided into two terms of two quarters each, beginning as follows:

September 14th, 1898.
November 21st, 1898.
January 28th, 1899.
April 6th, 1899.

Payments must be made promptly at the beginning of each quar-

ter. On the day of entrance each student must make the following payments:

Matriculation Fee,	$ 5 00
Medical Fee,	5 00
Uniform,	22 30
Board and Washing for one quarter,	16 88
Total for Free-tuition Students,	$49 18
Tuition,	10 00
Total for Tuition-paying Students,	$59 18

At the beginning of each succeeding quarter the payments are:

For Free-tuition Students,	$16 88
For Tuition-paying Students,	26 88

Price of uniforms subject to fluctuations of market.

To the above must be added the cost of books and stationery, which may be obtained at the Cadet Exchange at wholesale prices; also $1.50 for diploma, payable on graduation.

Remittances should be made in cash, money order, or New York Exchange, but *not by local checks*, to P. H. E. SLOAN, Treasurer, Clemson College, S. C.

A deduction will be made for board and washing when the student is absent one month or more.

Next Session.

The next annual session will begin September 14th, 1898, and will continue without vacation till June 14th, 1899.

It is of great importance that students be present on the day of opening.

Requirements.

Each candidate for admission must be at least fifteen years of age, except where two brothers apply, one being over fifteen and the other not under fourteen.

Matriculation is equivalent to a pledge to conform to the rules and regulations of the College.

Certificates of good moral character are required of all candidates for admission not known to members of the faculty; and, if the candidate comes from another college, this certificate must show that he was honorably discharged.

For admission into the freshman class thorough proficiency is required in arithmetic, elementary algebra, English grammar, geography, and history of the United States. A preparatory course is provided for students not sufficiently advanced for the College classes. The text-books recommended to those preparing to enter the freshman class are Wentworth's Grammar-School Arithmetic,

Wentworth's Elements of Algebra (used in the preparatory course), Whitney-Lockwood English Grammar, Appleton's Higher Geography, Eggleston's History of the United States and Its People.

All candidates for matriculation are subject to a medical examination, and will be excluded from the College on account of consumption, or other contagious or communicable diseases, or permanent disability for manual labor or military duty.

All students are required to pursue regular courses, except when granted special permission by the faculty to take irregular courses.

Students in any class who fail to pass on more than one subject will not be promoted, and no student will be promoted to the senior class till all deficiencies are made up.

Students are required to make up all class work from which they have been absent for any cause except military duty.

All regular students are required to board in the institution except those who live with their parents near enough to attend from their homes.

The government is military, and each student is required to purchase the prescribed uniform. Students may provide themselves with such work clothes as they desire.

Each student will be required to bring with him four sheets, two blankets, a comfort, six towels, one pillow, and two pillow cases. Beds are single width.

Organization.

For purposes of instruction the College is organized into five departments, as follows:

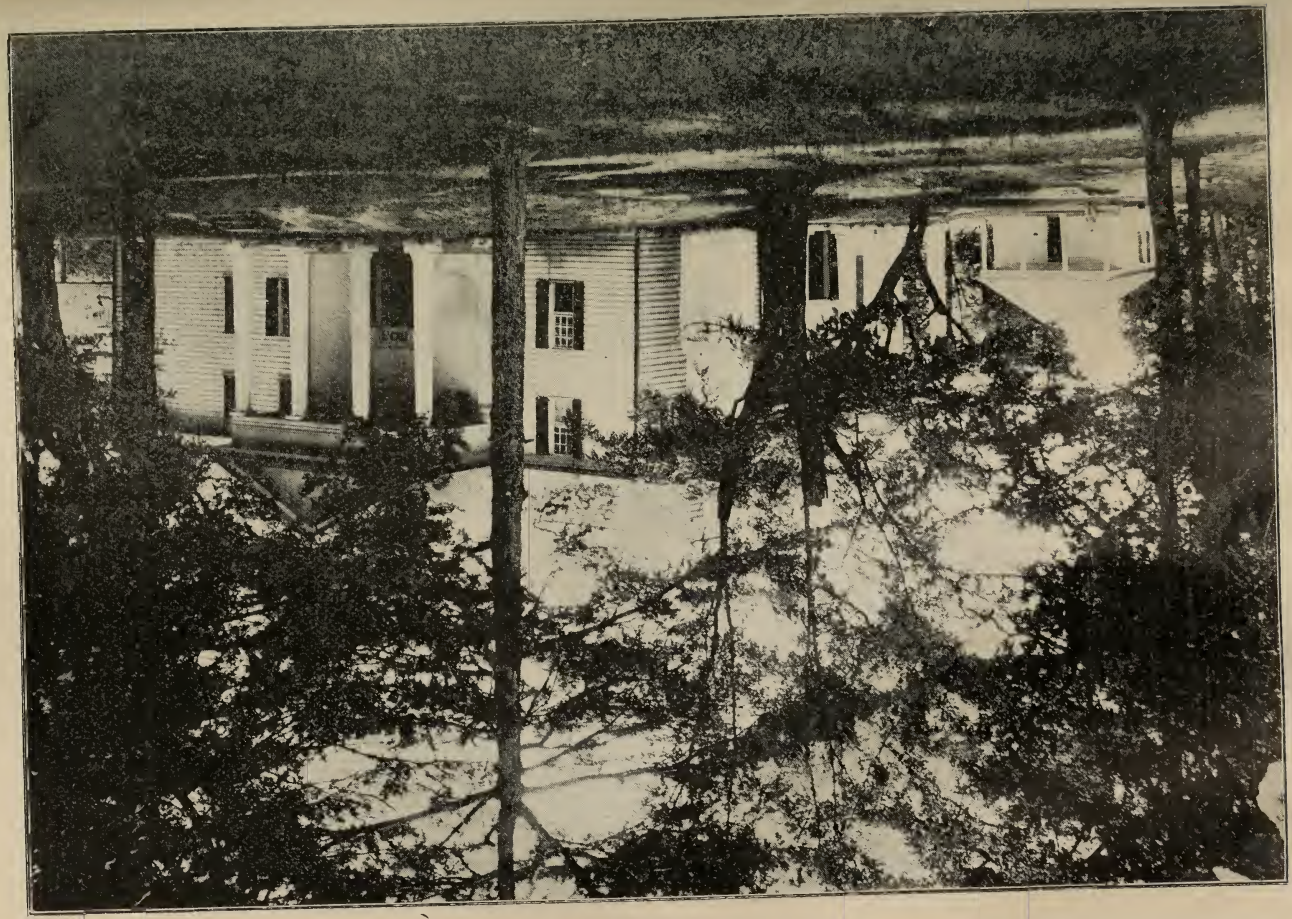
1. Agricultural Department
2. Mechanical Department
3. Department of Chemistry and Natural Science
4. Literary Department
5. Military Department

Each department is presided over by a professor designated by the Board of Truseees as Head of Department, who in addition to teaching, exercises a general supervision over the work of the department. The divisions of each department are in the immediate charge of special instructors.

The Agricultural department comprises the following divisions: General Agriculture, including Animal Husbandry; Horticulture; Entomology; Botany; Dairying; Veterinary Science; Poultry Raising.

The Mechanical department comprises the divisions of Applied Mechanics, including Experimental Engineering; Physics; Electrical Engineering; Drawing and Designing; Forge and Foundry; Machine Shop; Wood Work.

The department of Chemistry and Natural Science includes Chemistry, general, industrial, agricultural and analytical; Geology and Mineralogy.



The Literary department comprises the courses in pure Mathematics, Civil Engineering, English and History.

The Military department comprises theoretical and practical instruction in Military Science and Tactics.

There are two full courses of study—agricultural and mechanical. All regular students in the freshman class pursue the same studies. At the beginning of the sophomore year they choose either of these courses, and upon its completion are granted diplomas conferring the degree of Bachelor of Science. At the beginning of the junior year students pursuing the mechanical course are also allowed to choose between electrical engineering and civil engineering.

Irregular Students.

Students are earnestly advised to pursue regular courses; but those who for satisfactory reasons are unable to do so, may upon the approval of the faculty, pursue special studies. No student whose time is not fully occupied will be permitted to remain at the College. Diplomas are not issued to irregular students.

Special Students.

Graduates of this and other institutions or other mature young men of earnest purposes, who desire to pursue special lines of work will be given every opportunity that the College affords, upon satisfying the faculty that they are qualified to undertake such courses to advantage. Students thus admitted are expected to apply themselves assiduously.

Reports.

Monthly reports are furnished to parents and guardians, giving the standing of students in all studies and in discipline. Reports are also issued at the end of each term, showing the grades, based upon class work and examinations, in all studies. Parents will be advised to withdraw students who habitually shirk duties.

Degrees.

Students who satisfactorily complete either of the four-years courses will receive the degree of Bachelor of Science.

Experiment Station.

The State Experiment Station occupies a portion of the College farm, and affords valuable opportunities for instruction in the various divisions of the Agricultural department.

Under the guidance of the Station officers, the students are expected to familiarize themselves with the different lines of investiga-

tion being carried on, and thus to have their interest in agricultural topics awakened, their powers of observation strengthened, and to learn to tabulate and compare results of experiments conducted and to draw conclusions therefrom. The organization and work of the Experiment Station are described at the end of this catalogue.

Farmers' Institutes.

During the past year Farmers' Institutes have been held under the management of the College in many counties of the State. The President and Professors of Agriculture, Chemistry, Horticulture, Dairying, Veterinary Science, Botany, and other members of the faculty have taken part in these institutes. The purpose has been to bring practical information to the farmer, and to give him the results of scientific investigation in the interest of Agriculture. The success thus far attained is most encouraging, and leads to the hope that these institutes may become a permanent feature in the work of the College.

They will be continued during the coming vacation. A special institute of ten days duration will also be held at the College during the month of August, in which, besides the College faculty, a number of prominent speakers from other states are expected to participate.

Farmers wishing an institute held in their county or community should write to the President of the College.

Student Labor.

A certain amount of educational labor is required of all students in connection with the prescribed courses of instruction. In addition to this considerable manual labor is necessary to carry on the agricultural and mechanical departments of the College. Students who desire it are employed in this work, when practicable, and are paid for it at the rate of eight cents an hour; but no student is allowed to undertake work that interferes with his College course. This labor serves a two-fold purpose: it helps students that are in need of money to pay their College expenses, and most of it puts into practice the teaching of the class room. No student should come to the College, however, expecting to defray all his expenses in this way. The demand for such labor always exceed the supply, and the College assumes no obligation to furnish students with employment for wages.

Religious Services.

The regular Sunday morning services in Memorial Hall during the past year have been conducted by Rev. A. T. Dunlap (Methodist), Rev. R. W. Sanders, D. D., (Baptist), Rev. R. P. Pell

PRESIDENT'S RESIDENCE.

(Presbyterian), and Rev. O. T. Porcher (Episcopalian). All students are required to attend these services. In addition, a Sunday School, at which attendance is voluntary, meets every Sunday.

Chapel services are conducted every morning by the President assisted by other members of the faculty.

Young Men's Christian Association.

This is a voluntary organization of the students, and is entirely under their management. The objects of the association are to promote Christian fellowship among its members and aggressive Christian work among the students. The meetings are held in Memorial Hall every Sunday evening. The membership is of two classes—active and associate. A member in good standing of any evangelical church may become an active member of the association, and any young man of good moral character may become an associate member. The faculty are in hearty sympathy with the work of the association, and render cheerful service when requested to do so. Parents and guardians are advised to encourage the students under their care to join the association as soon as they reach the College.

Library.

In the main building are a series of rooms specially constructed for the use of the Library. About 3,000 volumes of standard English literature, history, biography, general science, etc., and about 600 volumes of government publications are now on the shelves. The number of books is being added to each year. They have been recently classified and arranged, and excellent opportunity is now offered students for general and supplementary reading.

In recent purchases for the library special efforts have been made to procure all available books on South Carolina history and literature.

The following donations have been made to the library during the past year:

Two copies of "Fitzhugh St. Clair, the South Carolina Rebel Boy," by Mrs. Sallie F. Chapin; presented anonymously.

"The War Between the States," by Alexander H. Stephens; presented by Dr. P. H. E. Sloan.

A large number of valuable government reports presented by Hon. D. Wyatt Aiken.

Reading Room.

Connected with the Library is the students' reading room, supplied with the leading magazines and daily papers, and most of the county papers of the State.

The following papers are kindly contributed to the reading room by the publishers :

Anderson Intelligencer,
Athens Daily Banner,
Baptist Courrier,
Barnwell People,
Barnwell Sentinel,
Camden Chronicle,
Chester Reporter,
Christian Neighbor,
County Record,
Edgefield Chronicle,
Edgefield Monitor,
Greenwood Journal,
Independent Republic,
Lancaster Enterprise,
Lancaster Ledger,
Lancaster Review,
Laurens Advertiser,
Laurens Herald,
Lexington Dispatch,
Lutheran Visitor,
Manning Times,
Marion Star,
Newberry Herald and News,
Palmetto Post,
People's Advocate,
Pickens Journal,
Pickens Sentinel,
Press and Standard,
South Carolina Baptist,
Southern Presbyterian,
Union Times,
Watchman and Southron.

Literary Societies.

Three literary societies, the Calhoun, the Palmetto, and the Columbian, furnish a valuable supplement to the work of the College. These societies afford facilities for practice in debate, oratory, declamation, and essay writing, and their members acquire valuable knowledge of parliamentary law and usage. The meetings are held weekly on Friday evenings. Public celebrations and contests are also held at intervals during the year, at which there are debates, orations and declamations by the students.

The societies occupy halls in the main College building which are furnished with carpets and opera chairs, and are maintained entirely by the students. A small fee is charged for initiation, and there are also monthly dues of a few cents to meet running expenses. The total membership usually comprises about nine-tenths of the registered attendance at the College. All students are advised to join one of these societies.

THE CLEMSON COLLEGE CHRONICLE, a magazine designed to encourage literary work among the students, is published monthly during the session by the literary societies.

Scientific Association.

A Scientific Association has been organized for the purpose of promoting knowledge of the progress of the natural sciences, theoretical and applied. Public meetings are held every two months, at which subjects of general scientific interest are discussed by members of the faculty and advanced students of the College. These meetings are largely attended by the students.

Band.

In connection with the military organization is a regimental band of twelve pieces, supplied by the College with first class instruments.

Cadet Exchange.

A Cadet Exchange has been established where students may purchase at wholesale prices necessary articles, such as books, stationery, collars, cuffs, underwear, etc.

BARRACKS.

CURRICULUM.

Agricultural Course.

Freshman Class.

THEORETICAL.	Hours per week. 1st Term	2d Term	PRACTICAL.	Hours per week. 1st Term	2d Term
Mathematics	5	5	Wood Work	4	4
English	5	5	Mechanical Drawing	2	2
History	5	1	Free Hand Drawing	3	3
Agriculture	0	4	Forge Work	4	4
			Drill	2	2

Sophomore Class.

THEORETICAL.			PRACTICAL.		
Mathematics	5	5	Chemical Laboratory	4	4
English	3	3	Surveying Field Work	2	0
Chemistry	3	3	Agriculture and Stock Breeding	2	2
Agriculture and Stock Breeding	2	0	Horticulture	2	2
Horticulture	2	0	Dairying	2	0
Botany	0	2	Entomology / Botany	1	3
Dairying	0	1	Mineralogy	0	2
Entomology	0	1	Drill	2	2

Junior Class.

THEORETICAL.			PRACTICAL.		
English	2	2	Chemical Laboratory	6	6
History	4	0	Agriculture and Stock Breeding	2	2
Chemistry	2	2	Horticulture	2	2
Military Science	1	1	Dairying	2	0
Dairying	2	0	Entomology / Botany	1	3
Botany	0	2	Drill	2	2
Horticulture	0	2			
Entomology	0	2			
Veterinary Science	2	4			
Agriculture	2	0			

Senior Class.

THEORETICAL.			PRACTICAL.		
English	2	2	Chemical Laboratory	6	6
History	2	2	Veterinary Science	3	3
Chemistry	2	2	Dairying	2	0
Geology	3	3	Agriculture	0	2
Agriculture	2	2	Botany	2	0
Veterinary Science	1	1	Horticulture	0	2
Botany	2	0	Drill	2	2
Entomology	0	2			
Military Science	1	1			

Course in Engineering and Mechanic Arts.

Freshman Class.

THEORETICAL.	Hours per week. 1st Term	2d Term	PRACTICAL.	Hours per week. 1st Term	2d Term
Mathematics	5	5	Wood Work	4	4
English	5	5	Mechanical Drawing	2	2
History	5	1	Free Hand Drawing	3	3
Agriculture	0	4	Forge Work	4	4
			Drill	2	2

Sophomore Class.

THEORETICAL.			PRACTICAL.		
Mathematics	5	5	Wood Work	2	2
English	3	3	Mechanical Drawing	2	2
Descriptive Geometry	2	0	Foundry	5	5
Chemistry	3	3*	Chemical Laboratory	4	4†
Natural Philosophy	0	2	Drill	2	2
History	2	2			

*SECOND TERM—Chemistry first half, Descriptive Geometry second half.
†SECOND TERM—Chemical Laboratory first half, Mechanical Drawing second half.

Junior Class.

THEORETICAL.			PRACTICAL.		
Mathematics	5	5	Machine Shop	5	4
Physics	2	2	Mechanical Drawing and Designing	4	3
Electrical Engineering Or Civil Engineering	3	3	Electrical Laboratory, or Civil Engineering Field Work	4	4
Mechanics	2	2			
English	2	2			
Military Science	1	1	Mechanical Laboratory	0	2
			Drill	2	2

Senior Class.

THEORETICAL.			PRACTICAL.		
Mechanical Engineering	2	2	Shop Work	5	5
Electrical Engineering Or Civil Engineering	5	5	Mechanical Drawing	2	2
Applied Mechanics	3	3	Electrical Laboratory, or Civil Engineering Field Work	4	4
History	2	2			
English	2	2	Mechanical Laboratory	2	2
Military Science	1	1	Drill	2	2

HOTEL.

STUDENT'S DINING HALL.

COURSES AND EQUIPMENT.

General Agriculture.

PROFESSOR NEWMAN.
ASSISTANT PROFESSOR CONNER.

This study is pursued in all of the classes, commencing with the elementary principles in the freshman year. During this year the instruction is confined to the application of principles and practice which do not require a knowledge of the sciences related to agriculture.

As the student progresses in the study of the natural sciences, the application of these sciences is taught in their relation to the art of agriculture, special stress being placed upon the protection, improvement, fertilization, and all manipulations of the soil in the preparation for planting and in the cultivation of crops.

The cultivation of each important crop is discussed in the concrete. Special attention is bestowed upon the grasses and their cultivation. In the higher classes the employment and management of labor, farm equipment, and farm management are discussed. All instruction is given by lectures, the subjects being illustrated as far as possible by practical exercises.

Reference books: Voorhees' First Principles of Agriculture, Storer's Agriculture, Experiment Station Bulletins.

Equipment.

The College has a large storage barn provided with silos, a cow barn furnished with various forms of stanchions, a mule barn provided with the most improved forms of stalls and feed racks, implement and wagon sheds for storage of tools, etc., compost building for making compost in large quantities, and two large cribs for storage of corn.

Among agricultural machinery and implements may be mentioned the following: self binder, corn harvester, Deering ball bearing mower, Osborne mower, self dumping rake, check row corn planter, Buckeye cultivator, B. F. Avery cultivator, Tower cultivator, disc cultivator, springtoothed harrow, smoothing harrows, various forms of pulverizers, manure spreading machines, fertilizer and grain drill, various forms of small fertilizer drills, Planet Jr. drill, two Planet Jr. plows, scientific mill, stone grist mill, Tornado ensilage cutter, small thresher, hand gin, rock crusher, road machine, three terrace levels, and a 10 K. W. electric motor.

Horticulture.

ASSISTANT PROFESSOR DU PRE.
MR. WALKER.

The course in horticulture consists of horticulture proper, home

gardening, truck farming, pomology, viticulture, canning, and experiment work.

Instruction is given by lectures, covering the subject of horticulture in its most comprehensive sense; and embracing all sub-divisions in every detail. The instruction is continued through the entire course and is illustrated by practical exercises in the garden, orchard, vineyard and greenhouse.

In the practical work, the student is required to labor, and is thereby taught by actual experience the use of tools, the proper mode of preparing, fertilizing and cultivating the soil; shipping, storing, and canning vegetables and fruits; training and pruning vines and trees; propagating plants by seeds, grafts, buds, layers, leaves, and divisions. Instruction is also given in the making and use of hot-beds, cold-frames, mulching, etc., together with the art of forcing, crossing, and hybridizing, and the care of plants in the greenhouse.

Equipment.

The equipment for practical instruction in horticulture consists of the following: canning outfit complete; greenhouse, 21 by 140 feet, heated by hot water; experimental garden, about 5 acres; orchard, vineyard, and plats of small fruits, about 50 acres; truck farm, about 25 acres; and a small nursery.

Entomology.

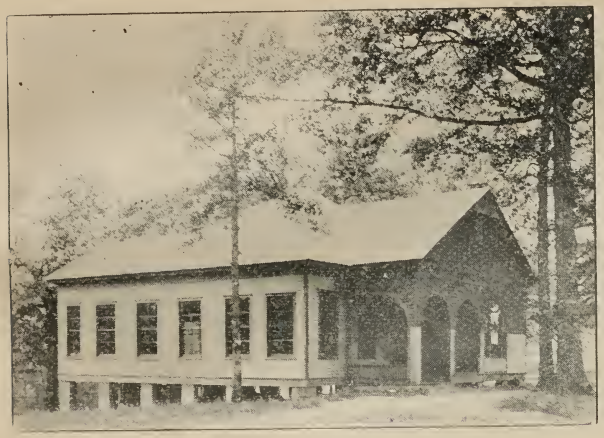
MR. WALKER, INSTRUCTOR IN CHARGE.

In this division the aim of the instruction is to give the student a working knowledge in the science for practical purposes, and to lay the foundation for further study, in case the student should desire to continue the subject.

The class work consists of lectures and laboratory study. The student is made familiar with the technical terms used in describing insects, with the characteristics of the several orders, sub-orders, and principal families; and with the use of keys for the identification of species. Special attention is given throughout to species of economic importance, both noxious and beneficial, together with the methods of combatting the former intelligently.

The student is impressed from the beginning with the importance of studying insects themselves, and of acquiring his knowledge first-hand as far as practicable. With this end in view, the lectures are constantly followed by laboratory study, which includes a careful examination of typical insects from the more important groups; drawings; descriptions; and the identification as far as families, and mounting for preservation of insects collected in frequent field excursions.

Comstock's Manual for the Study of Insects is used as a guide.



EXPERIMENT STATION OFFICE.

HERD OF CATTLE.

Other standard works on Entomology are at hand for further reference.

Equipment.

A two-story framed building is in course of erection to provide class rooms and laboratories for instruction in Horticulture and Entomology. The entire upper story of this building is to be fitted up as a museum to illustrate these subjects.

Botany.

MR. ANDERSON, INSTRUCTOR IN CHARGE.

SOPHOMORE CLASS.

SECOND TERM.—General Course.—During the second term the agricultural students are given a general course in botany. The student becomes acquainted with the use of the simple microscope in examining the organs of common flowering plants. Much time is devoted to the identification of common wild and cultivated plants. Special attention is given to the study of the grasses and clovers. The text-book used is Wood's Botanist and Florist.

JUNIOR CLASS.

FIRST TERM.—Plant Histology and Anatomy.—Work with the compound microscope is begun in the junior class in the study of plant histology and anatomy. The student becomes acquainted with the use of the compound microscope in studying the minute structure of plants, seeds, and plant tissues. A microscopic examination is made of a few plant products, as starch, protein, etc.

SECOND TERM.—Physiology of Plants.—During the second term a short course in the physiology of plants is given by means of lectures and experiments in the field and laboratory. Practical experiments illustrating the principals of plant life and growth are carried on by the students and instructor.

SENIOR CLASS.

FIRST TERM.—Bacteriology.—A short course in bacteriology is given by lectures and laboratory work. The students and instructor prepare the different culture media used in isolating a few of the common bacteria of the soil, air and water. Only the non-pathogenic and beneficial forms are studied.

SECOND TERM.—Cryptogamic Botany.—During the second term a short course in cryptogamic botany is given. Special attention is given to those fungi that produce diseases of the common economic plants.

Equipment.

One of the rooms in the main College building has been fitted up specially for botanical instruction, with cases, laboratory tables, and gas and water connections.

The laboratory is equipped with 25 simple microscopes and 16 compound microscopes, as well as with the necessary chemicals, reagents and glassware. It is also

supplied with a few of the most important pieces of bacteriological apparatus—hot air oven, steam sterilizer, hot water funnel, petri dishes, test tubes, flasks, etc.

A collection of the flora of the State has been begun. These plants, as well as the plants received through donations and exchanges, are properly mounted and placed in the College herbarium. The herbarium contains at present about 3,000 specimens of fungi, mosses, ferns, and flowering plants, all of which are accessible to students and others. A collection of seeds has also been begun.

The College is always anxious to receive specimens of plants, seeds, and plant products of all kinds for instruction as well as for a permanent exhibit.

Dairying.

MR. HART, INSTRUCTOR IN CHARGE.

Students who take the agricultural course receive instruction in dairying. In the dairy building, which is equipped with apparatus for testing milk, separating, butter making, cheese making, etc., practical instruction is given and opportunity afforded students of learning the various operations carried on in a well conducted private dairy, creamery, or cheese factory. Wing's Milk and its Products is used as a text-book.

Instruction is also given in the breeding, feeding and handling of dairy cattle, the herd belonging to the College being used for the purpose of illustration.

Equipment.

The commodious dairy building has an independent steam plant and water works, and is supplied with everything needed for making butter and cheese on a factory and private dairy scale, including the leading makes of cream separators, churns, butter workers, and milk testers. Students are thoroughly drilled in the use of this apparatus.

Veterinary Science.

DR. WYMAN, INSTRUCTOR IN CHARGE.

The aim of this division is to acquaint the agricultural student with the principles of veterinary surgery and medicine. Since it is of the greatest importance to make the course as practical as possible, the time being too limited for a thorough education in veterinary science, a free clinic is held once a week for a whole afternoon. To this clinic a large number of sick and lame animals are brought. The student thus personally observes the various diseases and is taught in a practical manner the putting up of medicines and their administration. All students are required to operate and to prescribe.

The course begins with the study of anatomy, pathology, materia medica, and obstetrics, to an extent compatible with the educated agriculturist. The principles and practice of veterinary surgery are given careful attention, especially lameness and examination of animals for soundness and for purchase.

CHEMICAL LABORATORY.

Lectures are delivered on veterinary medicine, dealing with the most important diseases of the various domestic animals. The contagious diseases, their nature, causes, symptoms, treatment and prevention are thoroughly discussed. The free clinics serve to demonstrate the lectures.

Equipment.

The clinics are conducted in a commodious operating house erected for that purpose. This building contains a well equipped blacksmith shop where horses and mules are shod for the instruction of students. A pharmacy, containing all the drugs and preparations used in veterinary practice, is connected with the operating house.

The class room is furnished with models and charts which are employed during the lectures to demonstrate points of special importance.

A very complete laboratory for microscopic work, histology, pathology and bacteriology, is open to postgraduate students.

Animal Husbandry.

ASSISTANT PROFESSOR CONNER.

SOPHOMORE CLASS.

Stock Breeding.—A careful study of the different types of domestic animals is pursued, and the student is thoroughly drilled in the principles and methods of successful breeding, heredity, atavism, variation, selection, fecundity, influence of environment, in-breeding, cross-breeding, grading, influence of previous impregnation, controlling of sex, etc. The animals in the farm herd are used for illustration.

JUNIOR CLASS.

Breeds of Live Stock.—The different breeds of horses, cattle, sheep and swine are considered, and those best adapted to the South are discussed at length. The College farm has a number of breeds of domestic animals which serve to illustrate the subject.

As a supplement to this work, the student is drilled in the use of the score-card which fixes the different types and breeds firmly in his mind.

SENIOR CLASS.

Stock Feeding.—This course includes the following subjects: laws of animal nutrition; composition of the animal body; fodders as a source of nutrients; digestion, resorption, circulation, respiration, and excretion; formation of muscle, flesh and fat; composition and digestibility of feeding stuffs, and their preparation and use; feeding for fat, for milk, for wool, for work and for growth.

Special attention is given to the feeding of mules, and the available feed-stuffs of the South are discussed at length.

Poultry Raising.

The work of this division will be directed in such lines as will furnish practical, useful information to the people, and thereby stimulate interest in and attention to this important source of family supply and revenue. Under the auspices of the Experiment Station experiments will be conducted in rearing the various breeds of poultry and the English ring-necked and Mongolian pheasants.

The work and equipment in this division will serve as valuable object lessons to students of the College, and will be used to illustrate the lessons of the class room.

Equipment.

The plant of this important division is in process of erection. There are 36 pens 20 by 32 feet, and in each a house 6 by 8 feet. For every four pens there is a run 80 by 150 feet, all enclosed with poultry cabled wire.

Chemistry.

PROFESSOR HARDIN.

ASSISTANT PROFESSOR BRACKETT.

MR. SHIVER.

SOPHOMORE CLASS.

BOTH TERMS.—General Chemistry.—Inorganic chemistry and the leading facts and principles of organic chemistry. Text-book, Roscoe's Elementary Chemistry. Laboratory.—Introductory work and qualitative analysis. Text-book, Jones' Junior course of Practical Chemistry.

JUNIOR CLASS.

BOTH TERMS.—Industrial and Analytical Chemistry.—Air, water, food, clothing, building materials, and other articles used in every day life. The metallurgy of iron, copper, lead, tin, zinc, silver, and gold. Laboratory.—Qualitative and quantitative analysis and assaying. Text-books, Jones' Junior Course in Practical Chemistry, Fresenius' Qualitative and Quantitative Analysis.

SENIOR CLASS.

BOTH TERMS.—Agricultural and Analytical Chemistry.—The composition of plants, the sources of plant food, the composition of soils, the improvement of soils by chemical means, the composition and manufacture of fertilizers, the composition of feeding stuffs and of dairy products. Text-book, Johnston's Elements of Agricultural Chemistry, edited by Cameron and Aikman. Laboratory.—Quantitative analysis of fertilizers, soils, ashes of plants, water, cattle foods and dairy products. Text-books, Bulletins of U. S. Depart-

ENGINEERING AND MECHANIC ARTS.

ment of Agriculture, containing methods of analysis adopted by the Association of Official Agricultural Chemists.

Equipment.

THE CHEMICAL LABORATORY is a two-story brick building, fifty by eighty feet, covered with slate, and finished inside with Southern pine.

On the first floor there are eight rooms. Five of these are appropriated for State Analytical and Experiment Station work, and are supplied with all necessary chemical and optical apparatus. Of the other rooms on this floor, one is a balance room for students, one an office, and the third is fitted up as a laboratory for advanced students. The basement is used for assaying and for storage.

On the second floor there are five rooms. The qualitative laboratory, which is the largest of these, is thirty-six by forty-eight feet, with a pitch of seventeen feet in the clear. It will accommodate sixty students at a time, and is provided with hoods for carrying off noxious gases, convenient working tables, water, gas, and all necessary appliances for experimental work. The other rooms on this floor are the lecture room, professor's laboratory, an office, and a room for gas analysis.

The Chemical Library is supplied with Wagner's Chemical Technology, Payne's Industrial Chemistry, Lunge's Sulphuric Acid, Thorpe's Dictionary of Applied Chemistry, Rickett's Notes on Assaying, Brown's Assaying, Phillips' Metallurgy, Deherain's Treatise on Agricultural Chemistry, Storer's Agriculture in some of its Relations with Chemistry, Wiley's Agricultural Analysis, and with other valuable works on theoretical and applied chemistry, as well as with American and foreign journals.

Geology and Mineralogy.

PROFESSOR LEWIS.

SOPHOMORE CLASS.

SECOND TERM—Mineralogy.—Elements of crystallography; laboratory study of crystal forms by the use of models and natural crystals; construction of crystal drawings; chemical and physical properties of minerals; chemical and physical tests of known minerals; determination of unknown specimens. Special attention is given to the useful minerals and those forming the chief constituents of rocks.

SENIOR CLASS.

BOTH TERMS.—General Geology.—Dynamical, structural and historical geology, with special reference to the development of the North American continent. The influences of geologic phenomena on man are carefully pointed out, particularly in the consideration of soils, the agents of erosion, transportation and deposit, and resultant topographic forms, and the accumulation of valuable ores and minerals.

Equipment.

The teaching collections contain about 1,000 labeled specimens of typical rocks, minerals and fossils, besides material for laboratory study. The collections are arranged in systematic order in glass cases, and are always available to students. The class room is also furnished with large physical wall maps of all the continents and an 18-inch terrestrial globe.

For practical work in mineralogy the laboratory is supplied with water and gas and complete apparatus and reagents for the determination of minerals by means of their physical and chemical properties.

Standard works on geology and mineralogy are kept in the laboratory for reference.

The College is a stated repository for all publications of the United States Geological Survey, and many valuable maps and reports have been received from this source, including all geologic folios that have been issued and a select series of topograhic maps for instruction in physiography. A number of valuable maps are also supplied by the United States Coast and Geodetic Survey.

State Specimens Wanted.—The College is anxious to procure specimens of all rocks, ores, minerals, and other natural products of the State, both for the instruction of students in the State's resources and as a permanent exhibit for all who may be interested in their development. The professor in charge will be glad to correspond with any one who is willing to furnish such specimens, and to give information, when desired, as to their nature and value.

Applied Mechanics.

PROFESSOR WORTHINGTON.

JUNIOR CLASS.

BOTH TERMS.—Elements of statics, dynamics, hydrostatics, and hydrodynamics. Text-book, De Volson Wood's Principles of Elementary Mechanics.

SENIOR CLASS.

BOTH TERMS.—Theory of resistance and elasticity of materials, strength of pipes, cylinders, and riveted joints; simple, cantilever, restricted, and continuous beams; compression of columns; torsion of shafts; combined stresses. Text-book, Merriman's Mechanics of Materials.

Physics.

MR. POATS, INSTRUCTOR IN CHARGE.

SOPHOMORE CLASS.

SECOND TERM.—Properties of matter, velocity, acceleration, force, mass, work, etc.

JUNIOR CLASS.

BOTH TERMS.—Sound, heat and light.

Text-books, Gage's Principles of Physics and Deschanel's Natural Philosophy.

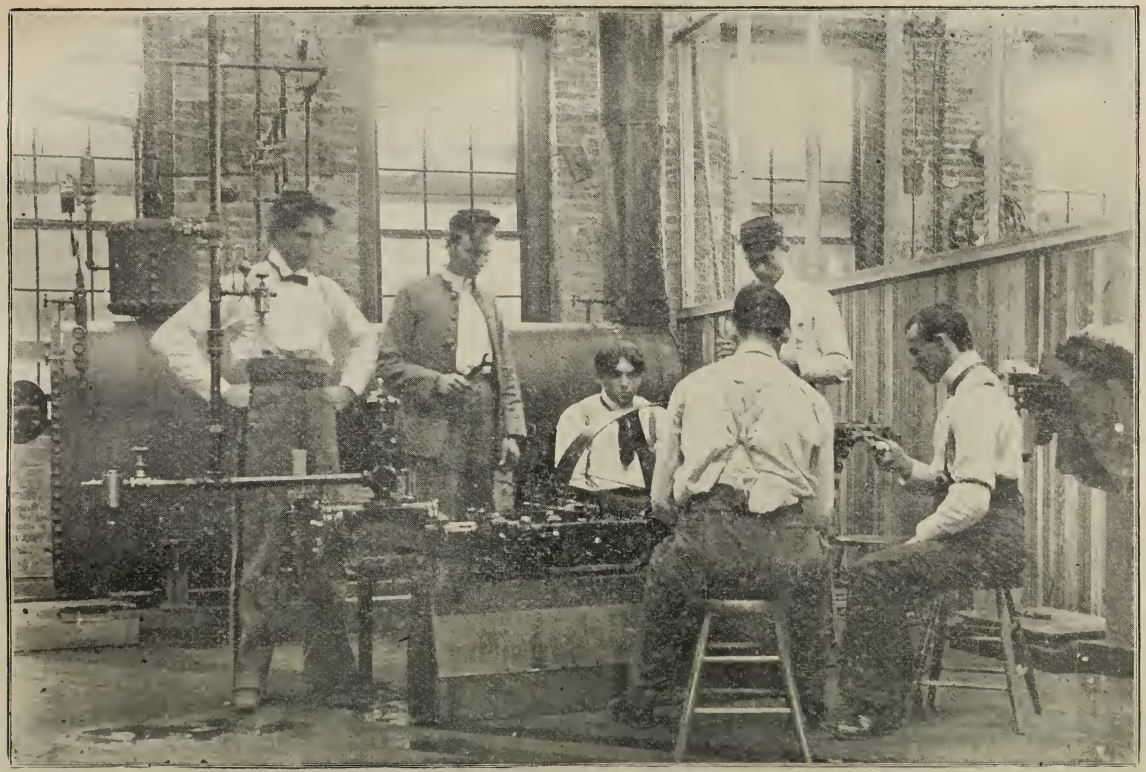
Equipment.

The physical lecture-room and laboratory is located in the main College building, being 33 by 60 feet, and is well equipped for lecture and experimental work in mechanics of solids, liquids and gases, and in acoustics, optics and heat.

Mechanical Laboratory.

MR. BARNES, INSTRUCTOR IN CHARGE.

This course is designed to teach the applications of the principles of mechanical engineering, and to familiarize the student with



CLASS IN ENGINE TESTING.

the instruments of this profession. It affords opportunity for illustrating the applications of science to industrial uses, and seeks to investigate the problems likely to occur in practice.

JUNIOR CLASS.

SECOND TERM.—Lectures on the fundamental principles of mechanical and experimental engineering; relation of theory to practice; use of engineering instruments; methods of testing building materials. Laboratory Practice.—Study, use, and calibration of steam gauges, pumps, injectors, steam engine indicators, and planimeters; measurement of water power and steam power; tests of building materials, as iron, brick, cement, wooden beams, etc.; use of water motors, hydraulic rams, steam engines, boilers and pumps. Text-book, Carpenter's Experimental Engineering.

SENIOR CLASS.

BOTH TERMS.—Lectures on the theory and use of steam engines, steam and coal calorimeters, oil and gas engines; methods used in testing power plants. Laboratory Practice.—Use of steam engine indicators; computation of power from diagrams; efficiency tests of steam pumps, steam engines, hot air engines, and compressed air motors; tests of lubricants, fuels, and products of combustion; solving of practical engineering problems. Text-books, Carpenter's Experimental Engineering, Thurston's Steam Engine.

GRADUATE COURSE.

Lectures and Laboratory Work.—Test of College power plant, including pumps, engine, boilers, and generators; designing of shop and laboratory equipment, with specifications and forms of contracts; installing and testing of apparatus; study of transmission of power; original research; commercial problems.

Equipment.

This laboratory occupies a room 41 by 45 feet, and contains the following equipment: For steam engineering: 15 horse-power horizontal, locomotive type boiler; 6 horse-power vertical boiler; Erie 6 horse-power plain slide-valve steam engine; 2-in. x3in. x4in. duplex steam pump; set of steam gauge testing apparatus; Carpenter's separating steam calorimeter; two throttling steam calorimeters; five steam engine indicators of various makes; two standard injectors. For hydraulic engineering: two hydraulic rams; Fulton water motor; power duplex pump; three weirs; recording altitude gauge; six pressure and altitude gauges. For compressed air: Clayton air compressor with jacketed cylinders; improved air motor; nozzles and air engines. For fuel and lubricants: Carpenter's fuel calorimeter with scales, balances, and oxygen generating devices; standard viscometer. For testing building materials: 100,000-pound Olsen automatic vertical testing machine driven by 5 horse-power Westinghouse electric motor, and fitted for tension, compression, and transverse testing; Fairbank's cement testing machine; 3,000-pounds transverse testing machine. The laboratory also contains an assortment of standard thermometers, weights and measures. The apparatus is so arranged that any of it may be used for separate or combined tests, or for any original investigations. Besides the equipment in this room, the electric light and power plant, the heating plant of the College and barracks, the isolated plants at the dairy, horticultural grounds, and pumping station are available for instructional purposes.

Electrical Engineering.

MR. RIGGS, INSTRUCTOR IN CHARGE.

JUNIOR CLASS.

BOTH TERMS.—Study of the elementary principles of electricity and magnetism; elementary dynamo design. Laboratory Work—Verifying the elementary principles of electrical science; setting up and use of primary and secondary batteries; determination of constants of standard instruments; calibration of instruments; wiring, putting in light fixtures, etc. Text and Reference Books, Ayrton's Practical Electricity, S. P. Thompson's Elementary Electricity and Magnetism, Stewart and Gee's Physics Vol. 1, Gray's Absolute Measurements, Ewing's Magnetism.

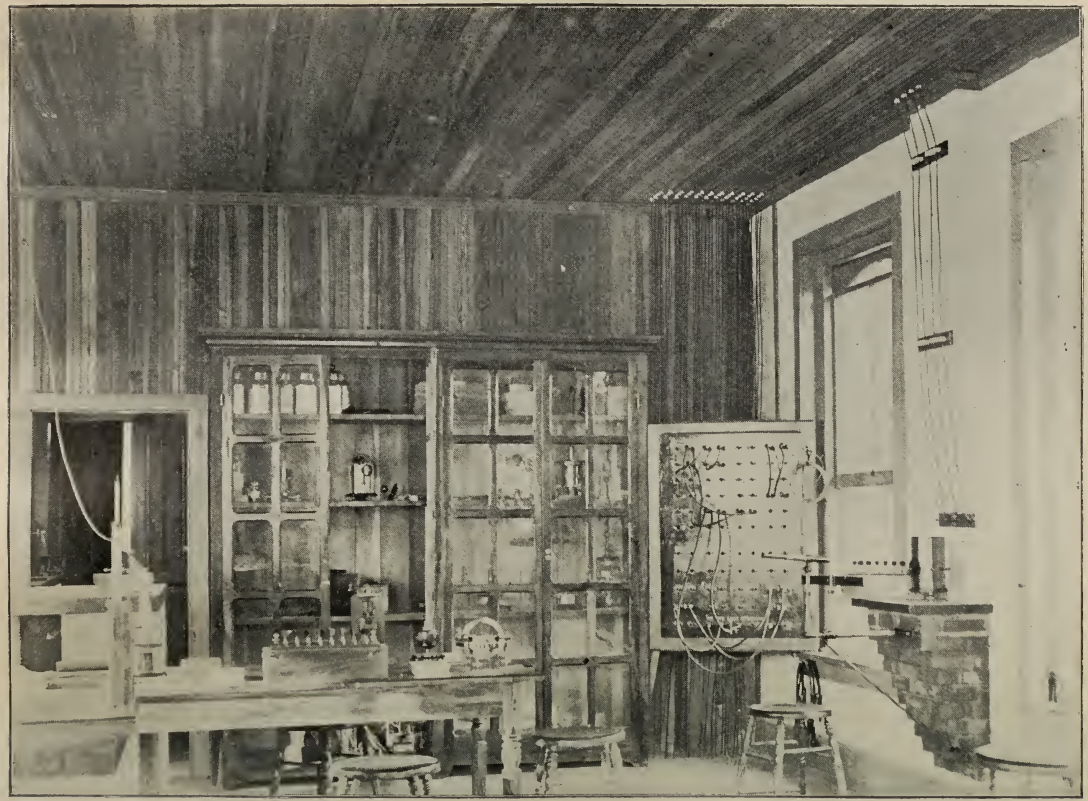
SENIOR CLASS.

BOTH TERMS.—Study of dynamo electric machinery; design of dynamos, transformers, and alternators. Special attention is given during the second term to the study of alternating currents and their applications to light and power. The course is supplemented by lectures and problems on synchronous and induction motors, methods of wiring, specifications for plants, etc. A complete dynamo design, with finished and detail drawings, is required of each student. Laboratory Work—Care, management, and testing of dynamos—arc and incandescent; testing and management of direct current motors; calibration of voltmeters and ammeters; management of accumulators; photometry; tests and management of alternators, synchronous and induction motors, transformers, etc.; care and installation of wattmeters; house wiring; construction and winding of dynamos. Text and Reference Books, S. P. Thompson's Dynamo Electric Machinery; Fleming's Alternate Current Transformers, Vols. I and II; Jackson's Alternating Currents; Bell's Electric Transmission of Power; Nichols' Laboratory Manual, Vol. I; Henderson's Practical Electricity and Magnetism.

Equipment.

ELECTRICAL INSTRUMENT LABORATORY.—This laboratory is a separate brick building designed especially for electrical purposes, no iron, steel, or other magnetic substances being used in its construction. Besides the laboratory proper, it contains a lecture room and a dark room. The lecture room has a complete line of batteries and electrical instruments, models of dynamos, motors, transformers, arc and incandescent lights, etc., for class illustrations. The dark room, provided for photometry and X-ray work, contains a complete X-ray outfit, designed and built by students, also Crooke's tubes and Edison fluoroscope. The laboratory, in addition to all the necessary elementary apparatus, has the following instruments of precision: Kelvin-Deka ampere balance, Kelvin four coil astatic galvanometer, four D'Arsonval dead beat galvanometers, large ring tangent galvanometer, three Elliott Brothers' standard resistance sets, Elliott Brothers' standard tangent galvanometer, Queen's standard ballastic galvanometer, Nalder Brothers' sensitive galvanometer, Rowland-D'Arsonval ballistic galvanometer, Wells-Young standard condenser, Becker's chemical balance, Cahart-Clark standard cell, thermometers, Wheatstone bridges, etc.

DYNAMO LABORATORY.—In the dynamo laboratory are installed the following machines: 15 horse-power Payne engine, Brush 28 arc light generator, Thompson



SWITCH BOARD, CORNER ELECTRICAL INSTRUMENT LABORATORY.

Houston 4 arc light generator, two 2½ horse-power Kester motors, 5 K. W. Edison compound wound generator, 20 horse-power Manchester motor, 5 K. W., D. C. Rotary and three phase converter, 2½ horse-power three phase induction motor. The two machines last mentioned were built by students. Two 10 K. W. two phase alternators are now being built by students in the shops. The following measuring instruments are in use: Set of Weston portable ammeters and voltmeters, Ayrton spring voltmeter, Carden voltmeter, Sieman's electro-dynamometer, Kelvin electro-static voltmeter, Weston standard laboratory voltmeter, Thompson recording wattmeter, etc. Types of all the leading makes of arc lamps, open and enclosed, lightning arresters, and transformers are kept in this laboratory.

The machinery is driven by the Payne engine and the 20 horse-power Manchester motor mentioned above. Steam and electricity for these machines are furnished by the College power plant, located in the opposite wing of the same building. This plant consists of an 85 horse-power Corliss engine, driving an 18 K. W. Lundell generator and a 30 K. W. Weston generator. This station furnishes power to ten motors ranging from 3 to 20 horse-power. These motors are used at different points on the College property for a variety of purposes, such as pumping water, driving agricultural machinery, supplying power for machine shop, wood shop, etc. Several of these are at a considerable distance from the power station, thus furnishing examples of electrical transmission of power. Three of these, 7 horse-power each, were built by students. In addition to power for driving motors, the same generators furnish electricity for lighting the barracks and other College buildings. Students have access to this plant, and are thus enabled to see the practical workings of a combined electric light and power plant, and to test its efficiency.

The aim of the course is to make practical as well as theoretical electrical engineers.

(The division of Electrical Engineering will calibrate free of charge any voltmeter or ammeter that may be sent to the College for that purpose.)

REQUIREMENTS.—Special students desiring to pursue the electrical engineering courses must be prepared in mathematics as far as plane trigonometry for the junior course, and must have a working knowledge of the calculus for the senior course.

Drawing and Designing.

MR. YAGER, INSTRUCTOR IN CHARGE.

MR. LEE.

FRESHMAN CLASS.

BOTH TERMS.—Graded exercises in free hand drawing from plaster casts and other objects, beginning with the simplest geometric forms and extending to the sketching of simple machinery, fruits, grasses, flowers, and animals; principles of dimensioning and reading mechanical drawings; exercise in the use of instruments, making simple working drawings, shading and lettering.

SOPHOMORE CLASS.

BOTH TERMS.—Drawing in ink; practical geometrical problems relating to lines, angles, circles, tangents, polygons, and such curves as the ellipse, cycloid, helix, etc.; making complete mechanical drawings of pieces of machinery from working models; tracing and making blue prints. Descriptive Geometry.—This begins with definitions and elementary principles and includes the solution of problems with points, lines, planes, intersection and development of surfaces; perspective; shades and shadows.

JUNIOR CLASS.

BOTH TERMS.—Designing and making complete working draw-

ing of parts of machinery and structures, in accordance with the principles taught in the theoretical courses of applied mechanics.

SENIOR CLASS.

BOTH TERMS.—Designing and making detailed working drawings of special machines and structures, involving the applications of principles taught in the theoretical courses of mechanical, civil, and electrical engineering; thesis work. All designing and thesis work are done in conjunction with the other divisions of the departments.

Equipment.

The drawing rooms occupy the entire third floor of the mechanical building, 51x69 feet. The third and fourth floors of the tower are also used as dark room and blue print room, respectively. The free-hand and mechanical drawing rooms are equipped to accommodate 35 students each, with cases, boards, T-squares, etc., for over 200. Students are allowed the use of necessary instruments and apparatus free of charge.

Forge and Foundry.

MR. BOWMAN, INSTRUCTOR IN CHARGE.

FRESHMAN CLASS.

BOTH TERMS.—Forge Work.—The course in forging begins with instruction in the names of tools and building and managing fires. Graduated exercises are then taken up, including drawing out, upsetting, bending, punching, twisting, welding of iron, welding of steel, welding of steel and iron, annealing, hardening, tempering, case-hardening, bluing and browning. Some work is then done in ornamental forging. The practical instruction is supplemented, during the progress of the course, by lectures and notes on the principles involved, and the details of the best forge practice are thoroughly explained.

SOPHOMORE CLASS.

BOTH TERMS.—Foundry Work.—Students are taught the names and uses of tools; tempering of moulding sand; moulding and patching of moulds. Patterns of various shapes and sizes are used to illustrate the different principles of moulding, venting and gating; the use of risers, pressure gates, skim gates, gaggers, chaplets, facing sands; feeding of castings; core making; grading and mixing of iron; charging and managing the cupola. Four weeks are devoted to work in the brass foundry. The practical instruction is supplemented by a course of lectures.

Equipment.

FORGE SHOP.—This is a room, 37x60 feet, situated in a wing of the mechanical building. It is equipped with 18 Buffalo forges and steel-faced anvils, with sets of hammers, tongs, swages, fullers, flatters, etc. Continuous blast is furnished by a Buffalo blower driven by an electric motor. Steel hoods and stacks, which enter ventilators on the roof, serve to carry off the smoke by natural draft. The shop is also supplied with vises, swage blocks, emery wheel, bending cone, etc.

VIEW IN MECHANICAL DRAWING ROOM.

FOUNDRY.—The foundry occupies a room, 43x50 feet, adjoining the forge shop. It is equipped with a 26-inch Victor Colliau cupola, capable of melting 2,500 pounds of iron per hour; a brass furnace with its complement of tongs, crucibles, etc.; a crane of two tons capacity; ladles, flasks of different sizes, and twelve complete sets of moulder's tools. The Buffalo blower in the forge shop also furnishes blast for the cupola.

Machine Shop.

MR. POATS, INSTRUCTOR IN CHARGE.

JUNIOR CLASS.

BOTH TERMS.—Instruction begins at the bench with exercises in chipping and filing. Castings and drawings are given the student and he is required to chip and file each casting into the exact form and size represented by the corresponding drawing. From bench work the student is advanced to machine work, where he is taught turning, polishing, drilling, threading, planing, milling, etc., in iron, brass, and steel. In all cases the exercises are required to be worked to drawings. The graded course of exercises is designed to teach the fundamental principles and practices of machine metal-work, from the simplest to the most difficult operations. After completing this course of exercises, work is begun in the construction of tools, apparatus, etc.

SENIOR CLASS.

BOTH TERMS.—The senior year is devoted to more advanced work in the construction of engines, dynamos, motors, and other machines. The student is encouraged to work from his own designs as far as possible, but is guided and directed by the instructor in charge.

Equipment.

The machine shop is located on the first floor of the mechanical building. It contains fifteen benches with vises and kits of tools, and the following machines: 18 in. x12ft. engine lathe, 18in.x8ft. engine lathe, 14in.x6ft. engine lathe, two 14in.x6ft. improved engine lathes, four 14in.x6ft. Lodge and Shipley engine lathes, 10in.x4ft. pattern maker's lathe, 15in.x8ft. speed lathe, 18-in. drill press, 28-in. back-geared drill press, 22in.x22in.x6ft. Powell planer, universal cutter and tool grinder, 15-in. crank-shaper, Springfield emery grinder, 12-in. power hack saw, 36-in. power grindstone. The motor which drives this machinery was built by students. A general tool-room contains all the necessary tools for use with the various machines.

Wood Work.

MR. BARNES, INSTRUCTOR IN CHARGE.

The course in wood work does not aim to make the student a skilled carpenter, but rather to teach the proper use of tools, and impress the importance of working to exact dimensions. At the same time, it gives a certain amount of manual dexterity, useful in every vocation.

FRESHMAN CLASS.

BOTH TERMS.—Names and uses of tools; graded exercises in

carpentry, joining, and wood turning; construction of articles from working drawings; use of turning lathe and other simple machinery; construction of boxes, desks, etc., involving dovetailing, gluing, polishing; turning of cups, vases, indian clubs and other wooden articles.

SOPHOMORE CLASS.

BOTH TERMS.—Use of wood working machinery, as planer, jointer, circular saw and moulding machine; pattern work with graded exercises, showing use of and reason for draft, halving, core prints and core boxes; patterns for machines under construction; advanced turning and cabinet work.

Equipment.

The wood shop occupies a two-story wing of the mechanical building, 45x100 feet. The lower story contains a 25 K. W. electric motor, band saw, planer, 16-in. jointer, double-headed sharper, moulding machine, mortising machine, tenoning machine, emery grinders, etc. The upper room, used for class work, contains a universal circular saw, two scroll saws, thirteen turning lathes with a set of eight tools for each, eighteen manual training benches with case of tools for each. Power is furnished by a 5 horse-power electric motor. A large dry-kiln furnishes seasoned lumber for use at all times.

Mathematics.

PROFESSOR CLINKSCALES.

ASSISTANT PROFESSOR BRODIE.

This course presupposes a thorough knowledge of arithmetic and of algebra through quadratics.

FRESHMAN CLASS.

FIRST TERM.—Complete Algebra.—Quadratics (reviewed); simple indeterminate equations; inequalities; theory of exponents; logarithms; proportion and variation; series; binomial theorem; continued fractions; theory of limits; indeterminate coefficients; exponential theorem; equations in general. Text-book, Wentworth's Complete Algebra.

SECOND TERM.—Plane Geometry.—Rectilinear figures; circles; similar figures; comparison and measurement of surfaces of polygons; regular polygons and circles. Special attention is given to the formation, on the part of students, of the habit of clear and accurate reasoning and concise expression. Text-book, Wentworth's Geometry.

SOPHOMORE CLASS.

FIRST TERM.—Trigonometry.—Functions of acute angles; right triangle; goniometry; oblique triangle; applications. Text-book, Wentworth's Trigonometry and Tables.

SECOND TERM.—Higher Algebra.—Solid Geometry.—Planes and solid angles; polyhedrons; cylinders and cones; spheres, spherical

CLASS IN FOUNDRY WORK

polygons and pyramids; volume. Text-books, Wentworth's Higher Algebra and Wentworth's Geometry.

For agricultural students, the mathematical course ends with the sophomore year.

JUNIOR CLASS.

FIRST TERM.—Analytical Geometry.—Points and right lines in a plane; points and right lines in space; transformation of coordinates; circle; parabola; ellipse; hyperbola, higher plane curves; surfaces of revolution. Text-book, Wentworth's Analytical Geometry.

SECOND TERM.—Differential Calculus.—Differentiation of algebraic functions; transcendental functions; successive differentiation and development of functions; functions of two variables; tangents and asymptotes; maxima and minima; radius of curvature; evolutes and involutes; envelopes.

Integral Calculus.—Elementary forms of integration ; rational fractions; integration of irrational fractions; successive reduction; integration of functions of two variables; lengths of curves; areas of plane curves; rectification of curves; cubature of volumes. Text-book, Taylor's Differential and Integral Calculus.

Civil Engineering.

ASSISTANT PROFESSOR BRODIE.

SOPHOMORE CLASS.

PLANE SURVEYING—All regular students take plane surveying on completing trigonometry in the sophomore year. This course includes the general principles and fundamental operations of surveying with compass, level and transit. The object of the instruction is to make practical surveyors, familiar both with the mathematical principles involved and the art of combining the theory and the practice. The field work includes actual surveys of extensive tracts of land, of which the areas are computed and accurate plats are drawn. Experience is given in retracing the lines of old surveys, in numerous problems of laying out and dividing up land, and in locating intricate, irregular boundaries. Practice is also had in section leveling, laying out terraces, ditches, etc. Ample training is here furnished for the needs of agricultural students, and a good preparation is given for the higher work of the engineering courses. Text and reference books, Davies-Van Amringe's Surveying, Gillespie's Surveying.

JUNIOR CLASS.

BOTH TERMS.—Use and adjustment of transit, stadia, solar compass, and plane table; topographic surveying with transit and stadia;

railroad topography; triangulation; geodesy; city and hydrographic surveying; map and plan drawing, topographical symbols, map lettering, etc.

Highway Engineering.—Location, construction and maintenance of the country roads and city streets; advantages of various materials for road covering; effects of grades and surface upon the cost of transportation; plans and specifications; practical problems in change of grade and relocation, from surveys of existing roads.

Theory of Railway Construction.—Preliminary and location surveys; location from contour map; laying out of simple and compound curves; setting of slope stakes; computation of earthwork; switches; turnouts; theory of economic location; effects of grades, curves and length upon the cost of operation. Text and reference books: Johnson's Higher Surveying, Gillespie's Roads and Railroads, Burns' Highway Construction, Searles' Field Engineering, Wellington's Economic Location.

SENIOR CLASS.

BOTH TERMS.—Railway Engineering.—Surveys are made for a line of railway a mile or more in length; the necessary plans, profiles and cross-sections are prepared; grades are determined, curves laid out, slope stakes set, and all the needed measurements made to enable the student to compute the excavations and embankments, and to estimate the cost of construction.

Roofs and Bridges.—Mechanics of construction; derivation of practical formulas; foundations; stability of walls and arches; analytical and graphical investigation of stresses in framed structures; calculation of stresses in plate girders, Howe, Pratt, Warren, and lattice bridges and various kinds of roof trusses; bridge designing.

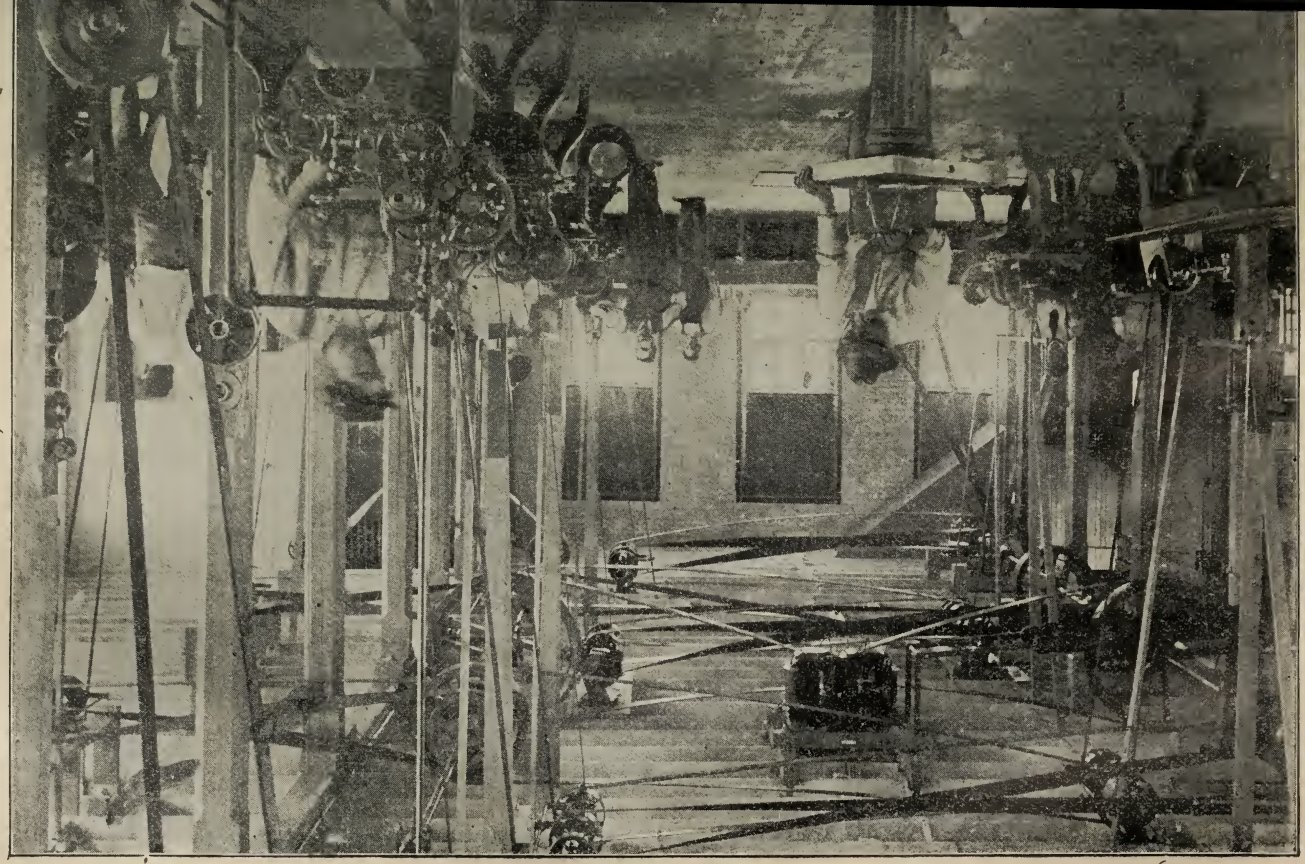
Hydraulic Engineering.—The laws of pressure and flow of water and other principles of hydrostatics and hydraulics are taught, both theoretically and practically; measurement of volume of discharge by weir or miner's inch; turbines and other water wheels; construction of water works for towns and cities; building of dams and reservoirs and computation of their stability; irrigation.

Text and reference books, Wheeler's Civil Engineering, Merriman's Mechanics of Materials, Merriman and Jacoby's Roofs and Bridges, Merriman's Hydraulics.

Equipment.

The collection of field instruments contains the following: Two 6-inch vernier compasses; 20-inch wye level; engineer's transit, with stadia; plane table, with 9-inch telescope, vertical circle and stadia; drainage level; 12-foot self-reading leveling and stadia rod; 12-foot New York leveling rod; 10-foot cross-section rod, graduated; Gurley's clinometer, reading to degrees; two surveyor's chains; engineer's chain; standard 100-foot steel tape, graduated to hundredths of a foot; and full supply of ranging poles, flag poles, and other accessories. There are also sets of drawing instruments for office work.

In addition to the drawing done under the immediate direction of the instructor in this division, the regular work in drawing and designing provided for civil engineering students is arranged with special view to their exact needs.



English.

PROFESSOR FURMAN,
ASSISTANT PROFESSOR M'LUCAS.

The purpose of the course in English is to enable the student to acquire the power to express his thoughts with clearness, precision and force; and to cultivate in him a taste for good literature. Elementary English grammar and the rudiments of composition are taught in the Fitting School.

FRESHMAN CLASS.

Lockwood's Lessons in English; Strang's Exercises; readings from Irving and Scott; exercises in composition; supplementary readings.

SOPHOMORE CLASS.

Clark's Practical Rhetoric; weekly exercises in composition; supplementary readings.

JUNIOR CLASS.

Pancoast's English Literature; Hawthorne and Lemmon's American Literature; critical study of Macaulay's Warren Hastings; monthly essays; supplementary readings.

SENIOR CLASS.

Study of Shakespeare; Dowden's Primer and the reading of three plays; advanced rhetoric; monthly essays; supplementary reading; exercises in elocution.

History.

PROFESSOR MORRISON.

FRESHMAN CLASS.

South Carolina History.—Text-book (Weber's) and lectures.
Commercial Geography.—Text-book (Tilden's) and lectures.

SOPHOMORE CLASS.—(Mechanical).

Civics.—Text-book (True and Dickinson's Our Republic) and lectures.
General History.—Text-book, Myers', begun.

JUNIOR CLASS.—(Agricultural).

Civics.—Text-book (True and Dickinson's our Republic) and lectures.
General History.—Text-book, Myers', begun.

SENIOR CLASS.

General History.—Text-book, Myers', completed.
Economics—Text-book, Walker's Political Economy, Briefer Course.

Military Science and Tactics.

PROFESSOR FULLER.

JUNIOR AND SENIOR CLASSES.

BOTH TERMS.—The course in military instruction, as prescribed and followed, is both theoretical and practical. The theoretical instruction, given by recitations and lectures, includes the subjects of organization and administration, grand and minor tactics, logistics, castrametation, military engineering, gunnery and pyrotechnics, military history, etc. The practical instruction includes infantary drill, in the school of the soldier, the company, the battalion and the evolutions of the regiment, in both close and extended order, target practice, and guard duty, and in the manual of the piece in light artillery drill. Practice is also given in signaling with the flag.

The cadets are subject to military discipline at all times, and all are required to take part in drill, guard duty, and other military exercises.

The organization of the corps of cadets is regimental, consisting of two battallions of two companies each, each battalion being commanded by one of the instructors of the college, having the local rank of Major. This organization permits the practical instruction being carried to a greater extent than a single battalion formation would allow.

In addition to the benefit which the general government derives from the military instruction given at this and other colleges, it is believed that the discipline enforced, the habits of punctuality and obedience inculcated, the improvement in bearing and appearance of those instructed, and also the practice in directing and commanding others, which nearly all in course of time get, is of immense benefit to the students individually.

Uniform.

The College uniform is of cadet grey of the West Point pattern, except that the College button is used. For military full dress, the cadet officers wear a plume and sash, and the non-commissioned officers and privates a pompon. This uniform is made of the best Charlottesville mills goods, is neat, and, considering the make and material, is very inexpensive.

Regulations.

In addition to the special regulations of the military department, cadets are subject to the following general regulations :

Cadets will at all times be respectful in their bearing to the professors and other officers of the College.

The practice known as hazing is positively forbidden, and any cadet indulging in this practice will be expelled from the College.

CORPS OF CADETS.

Cadets are positively forbidden to use or to have in their possession intoxicating liquors of any description.

The use of tobacco in any form by cadets is prohibited.

Profanity is positively forbidden.

Cards and all games of chance are positively forbidden.

All combinations of cadets for the purpose of censuring or praising one of their number are prohibited; also all combinations to defeat the purpose of any regulation of the College.

Fighting is positively forbidden. If any cadet shall consider himself wronged by another or by a professor or by an officer, he is to complain thereof in writing to the president, who will examine into the complaint and take such measures for redressing the wrong as he may deem proper.

Cadets are forbidden to keep any arms in their possession not issued by the proper authority.

No cadet will take food from the mess-hall without permission from the president.

Any cadet receiving 100 demerits during a term of five months will be dismissed.

Any cadet absent from barracks at night without proper authority will be dismissed.

Textile School.

The increasing development of cotton manufacturing in South Carolina has made it seem wise to the Trustees to incorporate in the work of the college a course of instruction and training in the manufacture of cotton. This will be known as the Textile Department.

While at present the purpose is to give attention to the processes of cotton manufacture only, the plans are laid so as to admit of a future expansion of this department to cover a wider field in textile arts, including the manufacture of wool, silk, linen and other fibres.

The start now being made is a modest one, but the field is large and it is hoped to expand the department in such a way as to give opportunity to the youth of the State to get at home the necessary knowledge and skill to qualify them to enter at once into advanced positions in textile manufacturing.

The course to be inaugurated in the beginning will be confined to instruction and training in the more ordinary processes of cotton manufacturing. Samples of the different machines will be in operation in the textile building. Students will be required to make themselves familiar with the construction and management of these machines.

The exact extent of the instruction to be offered next session has not yet been fully determined. A special circular, setting forth the courses in detail will be issued later, and will be furnished upon application to the President of the College. Correspondence is invited.

REGISTER OF STUDENTS AND ALUMNI.

Postgraduate Students.

Name.		County.
Blaine, J. M	Class '96	Fairfield
Bryan, A. B	Class '98	Barnwell
Bowen, J. T	Class '96	Pickens
Bryant, F. L	Class '96	Spartanburg
Cothran, T. W	Class '96	Greenwood
Furman, C. M., Jr	Class '96	Oconee
Hanvey, J. T	Class '98	Abbeville
Henry, D. H	Class '98	Abbeville
Klugh, W. W	Class '96	Greenwood
Lee, R. E	Class '96	Greenwood
McCrary, J. A	Class '98	Anderson
Moorman, T. S	Class '96	Richland
Moore, J. H	Class '96	Abbeville
Robertson, B. F	Class '96	Pickens
Rogers, D. F	Class '98	Marion
Sloan, B. F	Class '96	Oconee
Swygert, G. H	Class '98	Lexington
Tillman, B. R, Jr	Class '96	Edgefield
Turnipseed, B R	Class '96	Richland
Vogel, T. R	Class '98	Barnwell
Werts, L. A	Class '96	Edgefield

Special Students.

Name.	County.
Bradford, C. H	Lexington
Burgess, J. H	Clarendon
Johnson, E. L	Pickens
Newman, C. C	Oconee

Regular Students.

Name.	County.
Adams, W. G	Darlington
Aldrich, R. M	Barnwell
Alford, E. P	Florence
All, J. E	Barnwell
All, P. H	Barnwell
Allen, J. E., Jr	Barnwell
Anderson, J. F	Laurens
Anderson, J. Wall	Chester
Anderson, J. W	Chester
Ansel, J. F	Oconee
Austin, W. J	Abbeville
Ayers, L. W	Orangeburg
Bailey, M. M	Barnwell
Barker, F. H	Pickens
Barrett, R	York
Beattie, A J	Lancaster
Bell, E. P	Anderson
Bellinger, E. W	Barnwell
Bellows, C. A	Beaufort
Blease, J. W	Saluda
Blakeney, J. R	Lancaster
Blohme, J. C., Jr	Charleston
Boone, S. R	Orangeburg
Bouzard, H. F	Orangeburg
Bowers, A. D	Saluda
Boykin, E. B	Darlington
Boykin, L	Kershaw
Boylston, C. R	Barnwell
Brennecke, L. A	Oconee
Brock, W. T	Chesterfield
Brodie, M. A	Charleston
Brookbanks, T. A	Charleston
Brooks, M. B	Greenwood

TEXTILE SCHOOL BUILDING,
(In course of erection.)

Name.	County.
Brooks, U. R	Richland
Brown, J. H	Oconee
Browne, D. O	Anderson
Bryan, A. B	Barnwell
Bryson, D. L	Fairfield
Butler, A. A	Charleston
Bynum, E. M	Live Oak, Fla
Byrd, H. S	Darlington
Byrd, W. A	Edgefield
Caine, W. P	Laurens
Calhoun, J. S., Jr	Barnwell
Calhoun, R. S	Barnwell
Campbell, D. M	Colleton
Campbell, S. D	Greenville
Cannon, J. C	Spartanburg
Cannon, R. S	Newberry
Carpenter, L. F	Anderson
Carr, A. B	Richland
Carter, A. H. J	Charleston
Carter, J. M	Florence
Carwile, J. P	Abbeville
Caughman, J. E	Saluda
Cave, L. G	Barnwell
Cave, W. C	Barnwell
Chapman, J. H	Greenville
Chapman, W. E	Greenville
Chase, T. C	Richland
Cheatham, J. C	Abbeville
Cheatham, J. E	Abbeville
Chreitzberg, C. K	Charleston
Chreitzberg, H. R	Charleston
*Clark, H. F	Lexington
Clark, J. S	Barnwell
Clark, J. W	Barnwell
Clowney, J. B	Fairfield
Clyburn, T. L	Lancaster
Cobb, W. W	Anderson
Cohen, M. E	Sumter
Cole, W. F	Rockingham, N. C
Coleman, S. L	Greenville
Coleman, W. W	Florence
Connor, L. E	Charleston
Cook, P	Barnwell
Cope, W. D	Orangeburg
Copeland, F. P	Darlington
Cottingham, L	Marion
Crawford, F	Pickens
Crawford, R. C	Pickens
Croft, R. B	Aiken
Darlington, W. R., Jr	Barnwell
Davis, A. E	Darlington
Davis, J. P	Edgefield
Davis, S. A	Oconee
DeLoach, B. P	Kershaw
DesChamps, E. G	Sumter

Name.	County.
Devlin, J. O	Greenwood
Devlin, O. E	Edgefield
Donaldson, J. R	Marlboro
Douglass, C. B., Jr	Fairfield
Douthit, C	Anderson
DuBose, J. H	Darlington
Duckworth, J. C	Anderson
Elder, M. L	York
Emery, J. R	Beaufort
Epps, H. G	Williamsburg
Erwin, A	Anderson
Etheredge, J. F	Lexington
Evans, J. A	Marion
Evans, T. B	Marion
Fair, W. N	Edgefield
Fairy, E. C	Orangeburg
Felder, F. B	Orangeburg
Fellers, G. K	Greenwood
Fickling, C. J	Barnwell
Finger, E. R	Spartanburg
Finklea, J. O	Florence
Fitzsimons, A. R	Charleston
Fitzsimons, W. S	Charleston
Fletcher, B. A	Marlboro
Fore, T. E	Marion
Forsythe, R. G	Brevard, N. C
Forsythe, W. C	Brevard, N. C
Foster, J. B	Union
Franks, H. M	Laurens
Funchess, J. H	Orangeburg
Gaffney, C. L	Cherokee
Gandy, W. H	Darlington
Garland, J. A	Aiken
Garris, J. S	Colleton
Garrison, W. D	Anderson
Gentry, C. W	Spartanburg
Gentry, J. H	Atlanta, Ga
George, P. A	Marion
George, W. D	Lexington
Glenn, J. P	Spartanburg
Glenn, T. K	Anderson
Glover, H. P	Greenville
Goff, A. T	Edgefield
Goodman, J. C	Oconee
Goodman, W. P	Oconee
Gorman, J. C	Richland
Graham, J. S	Charleston
Graham, R. C	Charleston
Gray, H. K	Greenville
Gray, J. J., Jr	Barnwell
Gray, J. W	Darlington
Green, F. L	Sumter
Gunby, F. M	Orangeburg
Gunby, J. W	Orangeburg

* Died December 12th, 1897.

Name.	County.
Hair, H. B	Barnwell
Hallum, R. T	Pickens
*Hamilton, T. L	Fairfield
Hammond, W. L	Anderson
Hanvey, G. A., Jr	Abbeville
Hanvey, J. T	Abbeville
Hard, C. F	Charleston
Hardin, J. D	York
Harling, J. F	Edgefield
Harper, J. W	Savannah, Ga
Harrison, R. E	Knoxville, Tenn
Haselden, G. E	Marion
Haselden, L. B	Marion
Hawthorn, A. C	Abbeville
Hayne, F. I	Greenville
Haynsworth, R. B	Florence
Hays, A. F	Charleston
Hearon, R. L	Sumter
Henderson, L. D	Laurens
Henry, D. H	Abbeville
Hicks, J. C	Oconee
Hill, W. G	Abbeville
Hogg, T. F	Barnwell
Holland, J. C	Laurens
Hook, J. H	Orangeburg
Hook, W. N	Orangeburg
Hopkins, W. H	Richland
Howze, M. C	Union
Howze, W. K	Union
Hoyt, H. F	Sumter
Hughes, E. T	Orangeburg
Huguenin, C. C	Charleston
Humbert, D. C	Pickens
Humphreys, D. K	Greenville
Hunter, H	Pickens
Hunter, M. N	Anderson
Ihly, M. D.	Hampton
Irby, W. C	Laurens
Jeffares, J. W	Fairfield
Jenkinson, D. E	Clarendon
Jennings, D	Charleston
Jennings, H. B., Jr	Charleston
Johnson, E. E	Spartanburg
Johnson, J. A	Kershaw
Kaigler, B. H	Lexington
Kaigler, J. G	Lexington
Kelly, W. C	Darlington
Kennedy, J. L	Laurens
Killingsworth, M. A	Barnwell
King, L. L	Berkeley
Kinsler, J. H	Richland
Kirkland, J. B	Barnwell
Kirksey, J. K., Jr	Pickens
Kittles, V. H	Hampton
Kloeckler, C	Mt. Airy, Ga
Klugh, G. F	Greenwood
Knight, B. F	Lancaster
Koth, H. S	Hampton
LaBoon, W. H	Anderson
Lamar, E. W	Aiken
†Lanham, W	Clarendon
Lawrence, B. R	Pickens
Lawrence, H. Y	Pickens
Lawrence, J. H	Pickens
Lawson, C. S	Union
Lawton, F. A., Jr	Hampton
Lawton, F. B	Hampton
Lawton, R. O	Hampton
Lawton, T. O	Hampton
Lawton, W. J	Hampton
Lee, D. L	Williamsburg
Leech, J. S	York
Leech, S. W	York
Legare, S. C	Berkeley
Leitch, W. W	Charleston
Lewis, D. G	Pickens
Lewis, D. S	Oconee
Lewis, G. P	Pickens
Lewis, J. B	Charlotte, N.C
Lewis, J. E., Jr	Oconee
Lewis, J. L	Marion
Lightsey, H. W	Hampton
Liles, S. E	Marlboro
Linder, W. L	Union
Little, H. F	Spartanburg
Long, J. F	Anderson
Lotz, J. F	Colleton
Lumpkin, S. H	Fairfield
McCall, H. B	Florence
McCarrel, H	Charleston
McCaskill, C. E	Kershaw
McClure, C. M	Anderson
McCrary, H. N	Anderson
McCrary, J. A	Anderson
McFadden, W. H	Chester
McKinley, C. G	Charleston
McKinley, F. J	Charleston
McLendon, R	Darlington
McLendon, W. E	Darlington
McLucas, J. L	Marlboro
McMakin, J. W	Spartanburg
McMaster, J. G	Fairfield
McWhite, E. W	Florence
Mahaffey, C. B	Anderson
Mancke, W. S	Richland
Marjenhoff, F. D	Charleston
Marshall, R. W	Williamsburg
Martin, D. C	Laurens
Mathis, A. J	Barnwell

* Died June 29th, 1897. † Died February 17th, 1898.

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Name.	County.
Mathis, H. M	Barnwell
Mathis, W. G	Barnwell
Matthews, E. C	Barnwell
Matthews, J. W	Barnwell
Mauldin, C. E	Greenville
Mauldin, C. W	Pickens
Mauldin, L. O	Pickens
Maxwell, J. D	Anderson
Maxwell, J. F	Anderson
*Mikell, T	Berkeley
Miller, J. R	Anderson
Miller, R. B	Chesterfield
Minus, J. P	Dorchester
Mixson, J. C	Richland
Moise, W. L	Sumter
Moore, H. W	Marlboro
Moore, P. W	Greenville
Moore, T. W	Spartanburg
Moorer, W. M	Dorchester
Morrison, W. J	Hampton
Moses, A. J., Jr	Sumter
Napier, W. P	Marlboro
Nettles, W. F	Clarendon
Newman, H. S	Oconee
Newman, Q. B	Anderson
Newell, W. H	Anderson
Nimmons, R. L	Oconee
Nixon, J. B., Jr	Charleston
Odell, J. F	Beaufort
Odiorne, J. W	Florence
Oelkers, C. H	Oconee
Oliver, N	Darlington
Otis, R. K	Charleston
Owen, J. L	Anderson
Owings, C. B	Laurens
Parker, J. O	Barnwell
Parnell, C. R	Darlington
Parrott, W. H	Darlington
Patterson, R. S	Augusta, Ga
Paul, S	Beaufort
Peake, J. T	Laurens
Pearman, F. E	Anderson
Pearman, S. D	Anderson
Pegues, B. F	Marlboro
Pegues, E. S	Marlboro
Percival, E. W., Jr	Charleston
Perry, R. M	Chester
Pickett, E. H	Oconee
Porter, J. A	Orangeburg
Pou, J. R	Lexington
Quattlebaum, W. M	Fairfield
Ramsey, H. L	Spartanburg
Rawl, B. H	Lexington
Rawl, R. P	Richland
Reckling, W. T	Richland
Redfearn, J. C	Chesterfield
Reeder, W. C	Newberry
Reeves, R. N	Fairfield
Rembert, R. E	Sumter
Rhame, C	Sumter
Riggs, A. F	Orangeburg
Ritter, W. M	Orangeburg
Roddey, J. H	York
Rogers, D. F	Marion
Ross, J. A	Darlington
Sabine, G. R	Atlanta, Ga
Salley, J. E	Orangeburg
Sanders, H. M	Newberry
Sanders, J. W	Anderson
Sanders, W. A	Chester
†Sanders, W. C	Anderson
Sarratt, J. A	Cherokee
Sarratt, W. J	Cherokee
Sauls, E. C	Colleton
Searson, R. P., Jr	Barnwell
Seigler, C. H	Aiken
Shaw, T. C	Abbeville
Shaw, W. P	Charleston
Shealy, A. S	Edgefield
Shealy, E. M	Union
Sheppard, T. C	Charleston
Sloan, S. M	Oconee
Smith, H. G	Oconee
Smith, J. B	Bamberg
Smith, J. D	Spartanburg
Smith, J. L	Marion
Smith, W. R., Jr	Newberry
Snelgrove, J. C	Anderson
Spencer, J. H	York
Spencer, R. L	York
Sprott, C. N	Clarendon
Stacy, A	Cherokee
Stacy, C. C	Cherokee
Stallings, G. E	Aiken
Starling, W. D	Richland
Steele, B. B	Williamsburg
Stephens, J. F	Newberry
Stephens, J. R	Greenwood
Still, R. B	Barnwell
Stockman, J. H	Greenwood
Stokes, H. G	Hampton
Stone, C. B	Edgefield
Stone, J. A	Edgefield
Stone, R. B	Edgefield
Stoudenmire, C. L	Orangeburg
Stribling, J. H	Pickens
Stribling, M. D	Oconee

* Died June 28th, 1897. † Died June 16th, 1897.

Name.	County.
Stribling, T. L.	Oconee
Stubbs, A. J	Sumter
Stubbs, C. E	Sumter
Stuckey, J. D	Darlington
Stukes, J. T	Clarendon
Sullivan, D. A. J	Spartanburg
Sullivan, J. F	Spartanburg
Swearingen, G. F	Edgefield
Sweatt, J. H	Barnwell
Swygert, G. H	Lexington
Swygert, J. S	Fairfield
Talbert, A. D	Edgefield
Tatum, T. H	Orangeburg
Taylor, A. E	Greenwood
Taylor, G	Florence
Taylor, I. B	Greenwood
Thees, H. C	Charleston
Thompson, J. W	Kershaw
Thomson, J. C	Washington, D.C
Thornley, B. K	Pickens
Tillman, H. C	Edgefield
Tison, H. R	Barnwell
Traxler, D. B	Florence
Tribble, J. W	Anderson
Turbyfill, J. S. M	Spartanburg
Turner, G. C	Barnwell
Turner, J. T	Laurens
Turner, T. H	Barnwell
Turnipseed, L. A	Richland
Vance, W. G	Greenville
Vogel, T. R	Barnwell
Wade, B. H	Aiken
Walker, J. N	Barnwell
Walker, N. D	Union
Walker, T. J	Barnwell
Walker, W. F	Barnwell
Walker, W. P	Barnwell
Wannamaker, J. G., Jr.	Orangeburg
Watkins, J. B	Greenville
Webb, T. R	Laurens
Wells, C. H	Orangeburg
Weston, T. I	Richland
White, B. L	Charleston
White, J. D	Sumter
Whitten, E. G	Anderson
Wiggins, G	Berkeley
Williamson, J. E	Sumter
Wilson, H. A	Sumter
Wise, A. C	Chester
Wise, E. M	Florence
Wise, J. T	Aiken
Wright, C. W	Laurens
Wright, W. P	Laurens
Zeigler, M. E	Orangeburg

Irregular Students.

Name.	County.
Clinkscales, L. D.	Oconee
Clinkscales, G. B.	Oconee
Cole, A. B.	Rockingham, N. C.
Hair, J. K.	Bamberg
Hendricks, L. L.	Pickens
Homesley, A. B.	Shelby, N. C.
LaGrone, J. H.	Saluda
Lee, J. T.	Greenwood
McFadden, V. G.	York
Marshall, F. D.	York
Mays, B. F	Edgefield
Moorer, M. J. E.	Dorchester
Moseley, F. N.	Williamsburg
Norris, A. P	Greenville
Postell, J. A	Colleton
Simpson, T. S.	Anderson
Stribling, J. C.	Oconee
Tompkins, T. W.	Richland
Welling, W. H.	Charleston

BASE BALL TEAM.

Summaries.

BY COUNTIES IN SOUTH CAROLINA.

Abbeville	11	Hampton	11
Aiken	7	Kershaw	5
Anderson	31	Lancaster	4
Bamberg	2	Laurens	14
Barnwell	39	Lexington	9
Beaufort	4	Marion	10
Berkeley	4	Malboro	8
Charleston	30	Newberry	5
Chester	6	Oconee	23
Chesterfield	3	Orangeburg	21
Cherokee	5	Pickens	20
Clarendon	6	Richland	16
Colleton	5	Saluda	4
Darlington	16	Spartanburg	14
Dorchester	3	Sumter	14
Edgefield	16	Union	7
Fairfield	11	Williamsburg	5
Florence	11	York	10
Greenville	13		
Greenwood	12	Total, S. C.	435

BY STATES.

South Carolina	435	Florida	1
North Carolina	6	District of Columbia	1
Georgia	5		
Tennessee	1	Total	449

Postgraduate Students	21
Special Students	4
Regular Students	412
Irregular Students	19
	456
Names inserted twice	7
Total	449

NOTE.—Owing to the change in the college year, the session of 1897–98 includes three terms; and therefore the foregoing register comprises the total attendance from February, 1897, to June, 1898.

Occupations of Parents and Guardians.

Farmers	69 per cent.	Physicians	1 per cent.
Merchants	5 "	Drummers	1 "
Lawyers	4 "	Insurance Agents	1 "
Clerks	3 "	Contractors	1 "
Officers	2 "	Miscellaneous	10 "
Manufacturers	2 "		— "
Ministers	1 "	Total	100 "

Church Affiliation.

Methodist	36 per cent	Christian	2 per cent
Baptist	30 "	Catholic	1 "
Presbyterian	11 "	Israelite	1 "
Episcopal	10 "	Unitarian	1 "
Lutheran	5 "	Universalist	1 "
Associate Reform Presbyterian	2 "		—
		Total	100 "

Average Age.

The average age of students is 18 years.

ROSTER OF THE OFFICERS AND NON-COMMISSIONED OFFICERS OF THE CLEMSON CORPS OF CADETS.

COMMANDANT OF CADETS,

CAPTAIN EZRA B. FULLER, Seventh United States Cavalry.

FIRST BATTALION.
Companies "A" and "B."
MAJOR G. SHANKLIN.

SECOND BATTALION.
Companies "C" and "D."
MAJOR W. W. KLUGH.

COMMISSIONED STAFF.

Cadet Lieutenant and Adjutant.....THOS. H. TURNER.
Cadet Lieutenant and Quartermaster.....RALPH MCLENDON.

NON-COMMISSIONED STAFF.

Cadet Sergeant Major.....J. F. Sullivan.
Cadet Quartermaster Sergeant.....W. D. George.
Cadet Color Sergeant.....C. E. Mauldin.
Cadet Drum Major.....J. N. Walker, Acting.
Cadet Sergeant of the Band.....B. H. Rawl.

RANK.	"A" Company.	"B" Company.	"C" Company.	"D" Company.	Artillery Detachm'nt and Signal Corps.
Captain	A. S. Shealy	J. C. Thomson	I. B. Taylor	C. K. Chreitzberg	J. C. Cheatham.
Lieutenants	J. S. Calhoun	M. L. Elder	L. A. Turnipseed.	C. H. Seigler	H. G. Smith.
	W. F. Walker	W. N. Hook	A. P. Norris	T. S. Simpson	
1st. Sergeants	J. E. Caughman	S. D. Pearman	L. O. Mauldin	S. E. Liles	
Sergeants	J. B. Watkins	J. H. Kinsler	H. G. Epps	J. R. Donaldson	J. W. Jeffares.
	J. F. Etheredge	J. B. Foster	F. A. Lawton	C. H. Wells	
	R. S. Cannon	J. F. Maxwell	W. G. Adams	W. R. Smith	
	W. C. Forsythe	T. A. Brookbanks	E. T. Hughes	J. N. Walker	
Corporals	R. G. Forsythe	E. H. Pickett	J. W. Gunby	J. C. Duckworth	
	W. L. Moise	G. F. Klugh	T. O. Lawton	H. R. Chreitzberg.	
	J. F. Harling	H. R. Tison	C. W. Mauldin	H. L. Ramsey	
	J. R. Blakney	C. B. Douglas	J. H. Spencer	J. B. Lewis	
	W. J. Lawton	C. N. Sprott	C. J. Fickling	F. I. Hayne	

REGISTER OF GRADUATES.

1896.

Name and Address.	Occupation.
B. M. Aull, Autun, S. C	With Pendleton Manufacturing Co.
J. M. Blaine, Clemson College, S. C	Postgraduate student, Clemson Agricultural College.
G. P. Boulware, Newberry, S. C	Mercantile Clerk.
J. T. Bowen, Clemson College, S. C	Postgraduate student, Clemson Agricultural College.
J. T. Bradley, Augusta, Ga	Lumbering.
J. F. Breazeale, Anderson, S. C	Teacher.
F. L. Bryant, Ithaca, N. Y	Student, Cornell University.
P. N. Calhoun, Blairs, S. C	Teacher.
W. H. Carpenter, West Point, N. Y	Cadet, U. S. Military Academy.
A. M. Chreitzberg, Norfolk, Va	With Southern Railway.
T. W. Cothran, Denison Texas	Draftsman, U. S. Geological Survey.
D. Dowling, Bamberg, S. C	Bicycle Dealer.
E. P. Earle, Portman Shoals, S. C	Electrician, Anderson Light and Power Co.
J. F. Folk, Hartzog, S. C	Teacher.
C. M. Furman, Jr., Clemson College, S. C	Librarian, Clemson Agr. College.
P. H. Gooding, Crocketville, S. C	Farmer and Merchant.
R. G. Hamilton, Shelton, S. C	Teacher.
G. W. Hart, Greenwood, S. C	Secretary S. C. Teachers' Agency.
J. E. Hunter, St. Lukes, S. C	Teacher.
W. W. Klugh, Clemson College, S. C	Tutor, Clemson Agr. College.
P. G. Langley, Charleston, S. C	Electrician, Carolina Mutual Tel. & Tel. Co.
R. E. Lee, Clemson College, S. C	Assistant Instructor in Drawing, Clemson Agricultural College.
I. M. Mauldin, Pickens, S. C	Law Student.
J. H. Moore, Brownsville, S. C	Teacher.
T. S. Moorman, Columbia, S. C	Dairying.
O. M. Pegues, Kollock, S. C	Farmer.
B. F. Robertson, Port Royal, S. C	Chemist, Baldwin Fertilizer Co.
L. A. Sease, Lewiedale, S. C	Teacher.
J. G. Simpson, Miller School, Va	Instructor in machine shop; Miller School, Va.
B. F. Sloan, Charleston, S. C	Student, S. C. Medical College.
B. R. Tillman, Jr., Copes, S. C	Teacher.
A. J. Tindal Felder, S. C	Farmer.
F. G. Tompkins, Columbia, S. C	Lawyer.
B. R. Turnipseed, Greenwood, S. C	Merchant.
T. H. Tuten, Charleston, S. C	Student, S. C. Medical College.
W. W. Wardlaw, Sandover, S. C	Teacher.
L. A. Werts, Clemson College, S. C	Tutor, Clemson Agricultural College

1898.

Name and Address.	Name and Address.
D. O. Browne.....Anderson, S. C	G. A. Hanvey, Jr....Hunters, S. C
A. B. Bryan.....Barnwell, S. C	J. T. Hanvey.....Hunters, S. C
J. S. Garris.....Smoaks, S. C	D. H. Henry.....Abbeville, S. C
C. W. Gentry....Spartanburg, S. C	J. H. Hook..Clemson College, S. C
R. T. Hallum.....Liberty, S. C	J. A. McCrary.....Autun, S. C

REGISTER OF GRADUATES—1898—Continued.

Name and Address.	Name and Address.
W. H. McFadden.....Smiths, S. C	R. L. Spencer.....Roddy, S. C
C. B. Mahaffey....Knoxville, Tenn	G. H. Swygert.....Selwood, S. C
J. D. Maxwell.....Anderson, S. C	A. D. Talbert.....Parksville, S. C
J. P. Minus, Jr.....St. George, S. C	T. R. Vogel.....Barnwell, S. C
P. W. Moore....Simpsonville, S. C	T. J. Walker.....Denmark, S. C
D. F. Rogers.....Latta, S. C	G. Wiggins.....Holly Hill, S. C
W. J. Sarratt.....Gaffney, S. C	J. T. Wise.....Williston, S. C
J. B. Smith.....Branchville, S. C	

NOTE.—The first commencement was held in December, 1896. Then, owing to a change from winter to summer vacation, the next class graduated in February, 1898, and subsequent classes will graduate in June.

SECOND ANNUAL COMMENCEMENT.

February 6, 7, 8, 9, 1898.

Program.

SUNDAY, 11 A. M.

Baccalaureate Sermon.....By Bishop W. W. DUNCAN.

8 P. M.

Y. M. C. A. Address.....By President H. S. HARTZOG.

MONDAY.

A. M. *P. M.*

Begimental Review.....Entertainment by COLLEGE GLEE CLUB.

TUESDAY.

A. M.—Address to Graduating Class.....By Col. ROBERT ALDRICH.*

P. M.—Alumni Address.....By MR. I. M. MAULDIN, '96.

WEDNESDAY.

Commencement Day.

GRADUATING CLASS.

Name.	County.	Name.	County.
D. O. Browne	Anderson	J. P. Minus, Jr	Dorchester
A. B. Bryan	Barnwell	P. W. Moore	Greenville
J. S. Garris	Colleton	D. F. Rogers	Marion
C. W. Gentry	Spartanburg	W. J. Sarrat	Cherokee
R. T. Hallum	Pickens	J. B. Smith	Barnwell
G. A. Hanvey, Jr.	Abbeville	R. L. Spencer.	York
J. T. Hanvey	Abbeville	G. H. Swygert	Lexington
D. H. Henry	Abbeville	A. D. Talbert	Edgefield
J. H. Hook	Orangeburg	T. R. Vogel	Barnwell
J. A. McCrary	Anderson	T. J. Walker	Bamberg
W. H. McFadden	Chester	G. Wiggins	Berkeley
C. B. Mahaffey	Anderson	J. T. Wise	Aiken
J. D. Maxwell	Anderson		

* Owing to illness, Col. Aldrich was unable to meet this appointment, and his place was ably filled by Bishop Duncan.

EXPERIMENT STATION.

BOARD OF FERTILIZER CONTROL.

HON. J. E. TINDAL. HON. J. E. WANNAMAKER. GOV. W. H. ELLERBE.
J. P. SMITH, Secretary.

OFFICERS OF EXPERIMENT STATION.

HENRY S. HARTZOG, President of College.....Director
J. S. NEWMAN.....Vice-Director and Agriculturist
M. B. HARDIN.....Chief Chemist
F. S. SHIVER, PH. G.....Assistant Chemist
J. F. C. DUPRE.....Horticulturist
R. N. BRACKETT, PH. D.....Assistant Chemist
J. W. HART.....Dairyman
W. E. A. WYMAN, M. D. V., V. S.....Veterinarian
JOHN THOMPSON, B. AGR.....Assistant Chemist
A. P. ANDERSON, M. S., PH. D.....Botanist and Bacteriologist
C. M. CONNOR, B. S., B. AGR.....Assistant Agriculturist
J. V. LEWIS, B. E., S. B.....Geologist
ERNEST WALKER, B. S.....Entomologist and Assistant Horticulturist
JAS. P. LEWIS.....Farm Foreman
J. S. PICKETT.....Experiment Station Foreman
JOHN N. HOOK, Secretary and Librarian.

Extracts from the "Hatch Act."

Extracts from the act of Congress, known as the "Hatch Act," approved March 2, 1887, for the establishment of Agricultural Experiment Stations in connection with Colleges established in the several States under the provisions of the Congressional Act, approved July 2, 1862; and known as the *first* "Morrill Bill."

SECTION 1. * * * That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on the subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established under direction of the college or colleges or agricultural department of colleges in each State or Territory established, or which may hereafter be established, in accordance with the provisions of an act approved July 2, 1862, entitled "An Act Donating Public Lands to the Several States and Territories which may Provide Colleges for the Benefit of Agriculture and the Mechanic Arts," or any of the supplements to said act, a department to be known and designated as an "Agricultural Experiment Station." * * *

SEC. 2. That it shall be the object and duty of said experiment stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and waters; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective States or Territories.

SEC. 3. * * * It shall be the duty of each of said stations, annually, on or before the first day of February, to make to the Governor of the State or Territory in which it is located, a full and detailed report of its operations, including a statement of receipts and expenditures. * * *

SEC. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports and the annual reports of said stations shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the Postmaster General may from time to time prescribe.

SEC. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore discribed, the sum of $15,000 per annum is hereby appropriated to each State, to be specially provided for by Congress in the appropriations from year to year, and to each Territory entitled under the provisions of Section 8 of this act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July and October in each year, to the Treasurer or other officer duly appointed by the governing boards of said colleges to receive the same, the first payment to be made on the first day of October, 1887, *provided, however*, that out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement or repair of a building or buildings necessary for carrying on the work of such station, and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

* * * * * *

SEC. 7. That nothing in this act shall be construed to impair or modify the legal relation existing between any of said colleges and the Government of the States or Territories in which they are respectively located.

SEC. 8. * * * And in case any State shall have established under the provisions of said act of July 2 aforesaid an agricultural department or experiment station in connection with any university, college or institution not distinctively an agricultural college or school, and such state shall have established or shall hereafter establish a separate agricultural college or school, which shall have connected therewith an experimental farm or station, the Legislature of such State may apply, in whole or in part, the appropriation by this act made to such separate agricultural college or school, and no Legislature shall by contract, express or implied, disable itself from so doing.

SEC. 9. That the grants of money authorized by this act are made subject to the legislative assent of the several States and Territories to the purpose of said grant; *provided*, that payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

SEC. 10. Nothing in this act shall be held or construed as binding the United States to continue any payments from the treasury to any or all the States or institutions mentioned in this act, but Congress may at any time amend, suspend or repeal any or all the provisions of this act.

Outline of Experiments for 1897.

HORTICULTURAL DIVISION.—Experiments were conducted with varieties of various species of vegetables, including potatoes, tomatoes, cucumbers, onions, okra, beans, squashes, carrots and table beets. Also on watermelons and cantaloupes.

Fertilizer tests of onions, potatoes and beets.

Comparison of production from seeds taken from different parts of the watermelon.

Test of cuttings from each end and from middle of Irish potatoes. Tests of whole, half, quarter and smaller sections of the Irish potato. Canning fruits and vegetables—making pickles and catsups.

Various tests on fungicides and insecticides on sundry plants and vegetables.

Variety tests of strawberries, egg plants, cabbages, cauliflower, sugar beets, English peas and pole beans.

Fertilizer tests as to yield of tomatoes, cabbages, dwarf beans, sugar and table beets.

Fertilizer tests as to per cent. of sugar in sugar beets.

Fertilizer tests as to liability to produce scab in potatoes and beets.

Fertilizer experiments as to starch content of potatoes.

Experiments (cooperative) with growing forest trees from seed from other stations.

Experiments with insecticides to rid orchard of hories.

AGRICULTURAL DIVISION.—Rotation of crops. Fertilizers on cotton. Thick and thin planting of corn on bottom land. Methods

of saving fodder on both bottom and upland. Methods of planting corn. Experiments with grasses and legumes sown singly and together. Experiments with varieties of wheat and varieties of non-sacharine sorghums.

DAIRY DIVISION.—Experiments with pig-feeding to test the value of skim milk for pork production.

Experiments with different methods of setting and churning milk.

A test of the efficiency of different milk separators in extracting the butter fat from the milk.

Numbers of Samples Analyzed, Free, for the Years 1896 and 1897.

STATE ANALYTICAL WORK.

The following is a summary of the work compared with that of last year :

	1896	1897
Official fertilizer samples	237	272
Farmers' fertilizer samples	42	44
Mineral and potable waters	75	95
Phosphate rocks		2
Ores and minerals	18	14
Marl	1	
Ashes	2	1
Clays and sand	3	4
Miscellaneous	1	3
	379	435

OFFICIAL SAMPLES OF FERTILIZERS.

CLASSIFICATION.

	1896	1897
Nitrogenous superphosphates and fertilizers	115	117
Acid phosphates	42	59
Acid phosphates with potash	26	34
Kainit	16	22
Cotton seed meal	34	40
Miscellaneous	4	
	237	272

Bulletins Issued 1897.

Hog Cholera and Swine Plague, by W. E. A. Wyman.
Protection and Improvement of Worn Soils, by J. S. Newman.
Analyses of Commercial Fertilizers, by M. B. Hardin.
Sweet Potato as a Starch Producer, by F. S. Shiver.
Wounds and Their Treatment, by W. E. A. Wyman.
Determination of Starch in the Sweet Potato, by F. S. Shiver.
Analyses of Commercial Fertilizers, by M. B. Hardin.
Distemper in Horses and Mules, by W. E. A. Wyman.

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